

EXHIBIT 12

CONFIDENTIAL

In accordance with a protective order, the enclosure(s) shall be treated as confidential and shall not be shown to any person other than those persons designated in paragraph 8.2 of the paragraph order.



GW Law Faculty Publications & Other Works

Faculty Scholarship

2023

We Must Protect Investors and Our Banking System from the Crypto Industry

Arthur E. Wilmarth Jr.
George Washington University Law School, awilmarth@law.gwu.edu

Follow this and additional works at: https://scholarship.law.gwu.edu/faculty_publications



Part of the Law Commons

Recommended Citation

101 Wash. U. L. Rev. 235 (2023).

This Article is brought to you for free and open access by the Faculty Scholarship at Scholarly Commons. It has been accepted for inclusion in GW Law Faculty Publications & Other Works by an authorized administrator of Scholarly Commons. For more information, please contact spagel@law.gwu.edu.

WE MUST PROTECT INVESTORS AND OUR BANKING SYSTEM FROM THE CRYPTO INDUSTRY

ARTHUR E. WILMARTH, JR.*

ABSTRACT

The crypto boom and crash of 2020–22 demonstrated that (i) cryptocurrencies with fluctuating values are extremely risky and highly volatile assets and (ii) cryptocurrencies known as “stablecoins” are vulnerable to systemic runs whenever there are substantial doubts about the adequacy of reserves backing those stablecoins. Crypto firms amplified the crypto boom with aggressive and deceptive marketing campaigns that targeted unsophisticated retail investors. Scandalous failures of prominent crypto firms accelerated the crypto crash by inflicting devastating losses on investors and undermining public confidence in crypto-assets.

Federal and state regulators allowed banks to become significantly involved in crypto-related activities. Several FDIC-insured banks that provided financial services to crypto firms experienced serious problems during the crypto crash. The failures of three of those banks in March 2023 threatened to unleash a systemic banking crisis. Meanwhile, stablecoins issued by nonbanks and uninsured depository institutions have become a hazardous new form of “shadow deposits,” which could undermine the integrity of our banking system and require costly future bailouts.

This article presents a three-part plan for responding to the dangers posed by fluctuating-value cryptocurrencies and stablecoins. First, policymakers must protect investors by recognizing the Securities and Exchange Commission (SEC) as the primary federal regulator of most fluctuating-value cryptocurrencies. Federal securities laws provide a superior regime for regulating such cryptocurrencies. In particular, the SEC has broader powers, a more robust mandate to protect investors, and

* Professor Emeritus of Law, George Washington University Law School, Washington, DC. I would like to thank the Institute for Law and Economic Policy (ILEP) for inviting me to present a preliminary version of this article at ILEP’s 29th Annual Symposium in January 2023. I am most grateful to Emily Christiansen, Carol Gilden, Marc Gross, Laura Posner, Joel Seligman, Laura Stein, and other participants in the Symposium for their very helpful comments, and to the editors of the *Washington University Law Review* for their outstanding work in editing this article. I also greatly appreciate the superb research assistance I received from Germaine Leahy, Head of Reference for the Jacob Burns Law Library at GW Law School. Unless otherwise indicated, this article includes developments through March 31, 2023.

a stronger enforcement record than the Commodity Futures Trading Commission (CFTC).

Second, federal bank regulators must protect the banking system by prohibiting FDIC-insured banks and their affiliates from investing and trading in fluctuating-value cryptocurrencies, either on their own behalf or on behalf of others. In addition, federal bank regulators should bar FDIC-insured banks and their affiliates from providing financial services to crypto firms unless those firms are registered with and regulated by the SEC and/or the CFTC.

Third, Congress should mandate that all issuers and distributors of stablecoins must be FDIC-insured banks. That mandate would ensure that all providers of stablecoins must comply with the regulatory safeguards governing FDIC-insured banks and their parent companies and other affiliates. Those safeguards provide crucial protections for our banking system, our economy, and our society.

TABLE OF CONTENTS

INTRODUCTION.....	238
I. THE CRYPTO CRASH DEMONSTRATED THAT FLUCTUATING-VALUE CRYPTOCURRENCIES AND STABLECOINS POSE SEVERE RISKS TO INVESTORS AND OUR BANKING SYSTEM.....	243
A. <i>Fluctuating-Value Cryptocurrencies Inflicted Huge Losses on Investors During the Crypto Crash and Have Not Produced Meaningful Benefits</i>	243
B. <i>Stablecoins Promise Stable Values but Are Highly Vulnerable to Investor Runs</i>	249
C. <i>Aggressive Marketing Campaigns by Crypto Firms Intensified Crypto's Boom, While Scandalous Failures Accelerated Its Crash.....</i>	253
1. <i>Crypto Firms Magnified the Crypto Boom by Targeting Retail Investors</i>	253
2. <i>Scandalous Failures of Leading Crypto Firms Aggravated the Crypto Crash</i>	258
II. FEDERAL AND STATE REGULATORS ALLOWED BANKS TO BECOME SIGNIFICANTLY INVOLVED IN CRYPTO-RELATED ACTIVITIES, RESULTING IN THE CATASTROPHIC FAILURES OF THREE BANKS	268
A. <i>Banks Established a Substantial Presence in Crypto Markets with the Approval or Acquiescence of Federal and State Regulators</i>	268
B. <i>Several FDIC-Insured Banks Experienced Major Problems During the Crypto Crash, and the Failures of Three of Those Banks Threatened the Stability of the U.S. Banking System</i>	278
C. <i>FDIC-Insured Banks Are Seeking to Develop New Payment Systems That Use Stablecoins and Tokenized Deposits</i>	293
III. POLICYMAKERS SHOULD ADOPT A THREE-PART PLAN TO PROTECT INVESTORS AND OUR BANKING SYSTEM FROM THE CRYPTO INDUSTRY	299
A. <i>Policymakers Should Affirm the SEC's Role as the Primary Federal Regulator of Most Fluctuating-Value Cryptocurrencies</i>	299
B. <i>Federal Regulators Should Prohibit FDIC-Insured Banks and Their Affiliates from Investing and Trading in Fluctuating-Value Cryptocurrencies and from Providing Financial Services to Crypto Firms That Are Not Regulated by the SEC or the CFTC</i>	306
C. <i>Congress Should Mandate That All Providers of Stablecoins and Tokenized Deposits Must Be FDIC-Insured Banks.....</i>	312
1. <i>Providers of Stablecoins and Tokenized Deposits Should Comply with the Regulatory Safeguards Governing FDIC-Insured Banks .</i>	312

<i>2. Congress Should Reject Proposals that Would Allow Nonbanks and Uninsured Depository Institutions to Issue or Distribute Tokenized Deposits and Stablecoins.</i>	321
<i>3. Policymakers Should Not Apply the Regulatory Model for Money Market Funds to Nonbank Stablecoin Providers.</i>	323
CONCLUSION	326

INTRODUCTION

An enormous speculative boom occurred in markets for crypto-assets¹ between April 2020 and November 2021, followed by a catastrophic bust that continued through the end of 2022. The crypto crash inflicted huge losses on investors and generated serious concerns about the dangers that crypto-assets pose to our financial system. In March 2023, those dangers were highlighted by the failures of three U.S. banks with significant exposures to crypto-related activities. In view of the extreme risks of crypto-assets and their lack of demonstrated benefits, Congress and federal regulators must take decisive measures to protect investors and our banking system from the crypto industry.

During the crypto boom, the total market capitalization of crypto-assets soared from about \$200 billion in April 2020 to almost \$3 trillion in November 2021.² Prices for the two largest cryptocurrencies—Bitcoin and Ethereum³—rose dramatically during the same period.⁴ In the autumn of 2021, “Bitcoin and Ether ranked among the world’s top 20 traded assets, competing with the market capitalization of some of the world’s largest companies.”⁵

1. The Financial Stability Oversight Council (FSOC) has defined “crypto-assets” as “private sector digital assets that depend primarily on cryptography and distributed ledger or similar technology,” including digital “assets commonly referred to as ‘coins’ or ‘tokens’ by market participants.” FIN. STABILITY OVERSIGHT COUNCIL, REPORT ON DIGITAL ASSET FINANCIAL STABILITY RISKS AND REGULATION 7 (2022) [hereinafter FSOC DIGITAL ASSETS REPORT], <https://home.treasury.gov/system/files/261/FSOC-Digital-Assets-Report-2022.pdf> [<https://perma.cc/EJ93-DFJT>].

2. *Id.* at 9 fig.1.

3. *Global Cryptocurrency Charts: Major Cryptoassets by Percentage of Total Market Capitalization (Bitcoin Dominance Chart)*, COINMARKETCAP [hereinafter Major Cryptoassets Chart], <https://coinmarketcap.com/charts/> [<https://perma.cc/6TED-PVT3>] (showing that Bitcoin and Ethereum have been the two largest cryptocurrencies since February 2016).

4. *Prices*, BLOCK [hereinafter Bitcoin and Ethereum Price Graphs], <https://www.theblock.co/data/crypto-markets/prices> [<https://perma.cc/W2EE-VDSR>] (showing that the price of Bitcoin increased from \$6,400 on March 31, 2020, to \$67,100 on November 9, 2021, while the price of Ethereum rose from \$130 to \$4,740 during the same period).

5. Tara Iyer, IMF, *Cryptic Connections: Spillovers Between Crypto and Equity Markets*, 2, Global Financial Stability Notes No. 2022/01 (Jan. 2022), <https://www.imf.org/en/Publications/global-financial-stability-notes/Issues/2022/01/10/Cryptic-Connections-511776> [<https://perma.cc/XW9T-LUFH>].

The crypto crash began in late 2021 and became a prolonged “crypto winter,” as the total market capitalization of cryptocurrencies fell by over \$2 trillion between November 2021 and the end of 2022.⁶ Prices for Bitcoin and Ethereum declined by more than 70% during the same period.⁷ A staff study issued by the Bank for International Settlements (BIS) estimated that about three-quarters of individual investors who purchased Bitcoin between 2015 and 2022 suffered losses on their investments.⁸ The magnitude of the crypto crash caused significant concerns among U.S. and international officials about the risks that crypto-assets posed to the banking system and financial markets.⁹

The most widely used crypto-assets are cryptocurrencies. The term “cryptocurrencies,” as used in this article, refers to digital assets that are created and traded on blockchains or other privately created distributed ledgers.¹⁰ Most cryptocurrencies fall into two general categories:

6. *Global Cryptocurrency Charts: Total Cryptocurrency Market Cap*, COINMARKETCAP [hereinafter *Cryptocurrency Market Cap Graph*], <https://coinmarketcap.com/charts/> [<https://perma.cc/3DRM-EJ82>] (showing that the total market capitalization of global cryptocurrencies declined by over 70% from \$2.97 trillion on November 10, 2021, to less than \$790 billion on December 30, 2022); *see also* Kurt Wock, *After a Fall, Crypto Winter Sets In*, NERDWALLET (Nov. 14, 2022), <https://www.nerdwallet.com/article/investing/crypto-winter> [<https://perma.cc/TVK8-2655>] (describing the “crypto winter” that occurred in cryptocurrency markets during 2022). At the end of March 2023, the total market capitalization of global cryptocurrencies was about 60% lower than its peak value in November 2021. *Cryptocurrency Market Cap Graph*, *supra* (showing a total market capitalization of \$1.19 trillion for global cryptocurrencies on March 31, 2023).

7. *Bitcoin and Ethereum Price Graphs*, *supra* note 4 (showing that the price of Bitcoin fell from \$67,100 on November 9, 2021, to \$16,500 on December 31, 2022, while the price of Ethereum fell from \$4,740 to \$1,200 during the same period). At the end of March 2023, prices for Bitcoin and Ethereum were about 60% lower than their peak prices in November 2021. *Id.* (showing that prices for Bitcoin and Ethereum were \$28,530 and \$1,820 on Mar. 31, 2023).

8. Raphael Auer, Giulio Cornelli, Sebastian Doerr, Jon Frost & Leonardo Gambacorta, *Crypto Trading and Bitcoin Prices: Evidence from a New Database for Retail Adoption* 3, 20 (Bank for Int'l Settlements, Working Paper No. 1049, 2022) [hereinafter Auer et al., *Crypto Trading*], <https://www.bis.org/publ/work1049.pdf> [<https://perma.cc/WTD4-CMDY>].

9. BANK FOR INT'L SETTLEMENTS, ANNUAL ECONOMIC REPORT 87–89 (2022) [hereinafter BIS 2022 ANNUAL REPORT], <https://www.bis.org/publ/arpdf/ar2022e.pdf> [<https://perma.cc/FJ4A-VU3F>]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 4–5, 9–10, 14–25.

10. U.S. DEP'T OF THE TREASURY, CRYPTO-ASSETS: IMPLICATIONS FOR CONSUMERS, INVESTORS, AND BUSINESSES 5 n.4 (2022) [hereinafter TREASURY CRYPTO-ASSETS REPORT], https://home.treasury.gov/system/files/136/CryptoAsset_EO5.pdf [<https://perma.cc/A8Q2-6YF8>] (“[C]ryptocurrency . . . refer[s] to ‘a digital asset, which may be a medium of exchange, for which generation or ownership records are supported through a distributed ledger technology that relies on cryptography, such as a blockchain.’” (quoting Exec. Order No. 14,067, 87 Fed. Reg. 14143, 14151 (Mar. 14, 2022))).

As indicated by the foregoing definition of “cryptocurrency,” transactions in cryptocurrencies are conducted and recorded on blockchains and other privately created distributed ledgers. A distributed ledger is a repository of data stored on a network of separate computers called “nodes.” The nodes collectively operate the ledger in accordance with the ledger’s protocols (governing rules) and maintain separate copies of the ledger’s data. New data is added to the network by creating new “blocks,” which are validated by the ledger’s nodes in compliance with its protocols. Copies of the ledger’s data are shared among all nodes so that each node can monitor transactions on the ledger and prevent any other

(i) cryptocurrencies with fluctuating values, like Bitcoin and Ethereum, and (ii) “stablecoins,” which seek to maintain parity with a designated fiat currency or other referenced asset or group of assets.¹¹ The term “cryptocurrencies,” as used here, does not include digital (“tokenized”) representations of traditional financial assets such as stocks, bonds, bank deposits, and fiat currencies.¹²

In December 2022, the Basel Committee on Banking Supervision (Basel Committee) issued prudential standards for bank exposures to crypto-assets. As further discussed below, the Basel Committee’s standards distinguish between (i) “Group 1” crypto-assets, which include tokenized traditional financial assets and stablecoins that satisfy prescribed standards, and (ii) “Group 2” crypto-assets, which do not meet “Group 1” criteria, such as cryptocurrencies with fluctuating values.¹³ This article, like the Basel Committee’s standards, excludes tokenized traditional financial assets from treatment as cryptocurrencies and also contends that “Group 1” stablecoins

node from manipulating the ledger’s data. See, e.g., Gilles Hilary, *Blockchain and Other Distributed Ledger Technologies, an Advanced Primer*, in 1 INNOVATIVE TECHNOLOGY AT THE INTERFACE OF FINANCE AND OPERATIONS 1, 1–6 (Volodymyr Babich, John R. Birge & Gilles Hilary eds., 2022); Stephen A. Keen & Thomas M. Ahmadifar, *Can Mutual Fund Transfer Agents Be Automated Using Distributed Ledger Technology?*, INV. LAW., Apr. 2020, at 28, 28–29.

This article does not consider another category of privately issued digital assets known as “non-fungible tokens” (NFTs). NFTs are digital representations of works of art and other real-world images. NFTs are frequently marketed as “digital collectibles,” and they are widely viewed as “highly speculative investments.” TREASURY CRYPTO-ASSETS REPORT, *supra*, at 5, 23–25. “NFTs are tradeable [but] not interchangeable” because “each token is unique and distinguishable from any other.” *Id.* at 5, 23. Accordingly, NFTs are not designed to function as “fungible” payment tokens, and their current uses are mainly “non-financial in nature.” *Id.* at 23. The creation of new NFTs declined sharply in 2022, and trading in NFTs “plummeted” during that year. Cristina Criddle & Joshua Gabert-Doyon, *NFT Creators Diversify into Real-World Assets to Generate New Revenues*, FIN. TIMES (Dec. 26, 2022), <https://www.ft.com/content/69da37d1-11de-430f-8a86-ea51bd2ae82b> [<https://perma.cc/E9SS-DEFF>].

11. BIS 2022 ANNUAL REPORT, *supra* note 9, at 81; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 7.

12. See Lydia Beyoud, *Gary Gensler Says Crypto Investors Should Embrace SEC Regulation*, BLOOMBERG (Dec. 1, 2022, 8:00 AM), <https://www.bloomberg.com/news/features/2022-12-01/sec-chair-gary-gensler-on-crypto-markets-regulation-and-transparency> [<https://perma.cc/QTS4-K3WF>] (quoting SEC Chair Gary Gensler’s distinction between “cryptocurrencies” and “digitalization of [traditional] financial assets” such as “Treasury bonds [and] regular equity securities”); Steve Cocheo, *Why ‘Tokenized Deposits’ Are Not Stablecoins (& Why It Matters to Banks)*, FIN. BRAND (Aug. 11, 2022), <https://thefinancialbrand.com/news/cryptocurrency-banking/why-tokenized-deposits-are-not-stablecoins-why-it-matters-to-banks-150700/> [<https://perma.cc/9N7N-PS3L>] (explaining that “tokenized deposits” are not stablecoins and instead are digital representations of “existing bank deposit[s]”).

13. BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, PRUDENTIAL TREATMENT OF CRYPTOASSET EXPOSURES 1–2, 6–11 (2022), <https://www.bis.org/bcbs/publ/d545.pdf> [<https://perma.cc/QJD2-PXDQ>]; see also Memorandum, David L. Portilla & Will C. Giles, Cravath, Basel Committee Finalizes Prudential Standard for Cryptoasset Exposures (Jan. 3, 2023) [hereinafter Cravath, Basel Committee Finalizes Prudential Standard], <https://www.cravath.com/a/web/fx33BGUR3V4c6Dfjmg6xS/basel-committee-finalizes-prudential-standard-for-cryptoasset-exposures.pdf> [<https://perma.cc/37YV-QBWU>] (discussing the Basel Committee’s standards for bank exposures to crypto-assets); see *infra* notes 352–54, 378–80, 391–92 and accompanying text (same).

should be regulated differently from “Group 2” cryptocurrencies with fluctuating values.

Part I of this article provides an overview of the crypto boom and crash. As described in Part I.A, the crypto boom and crash demonstrated that cryptocurrencies with fluctuating values are extremely risky and highly volatile assets that are strongly correlated with each other. Fluctuating-value cryptocurrencies rose in tandem during the boom and collapsed together during the bust. Those cryptocurrencies did not provide hedging or diversification benefits and inflicted very severe losses on investors. In addition, fluctuating-value cryptocurrencies have not produced meaningful benefits for our financial system or the broader economy.

As discussed in Part I.B, stablecoins are the most widely used form of payment for investing and trading in cryptocurrencies and are also pledged as collateral for borrowing and lending cryptocurrencies. Stablecoins provide the primary link between traditional financial markets and cryptocurrency markets because most investors convert their fiat currencies into stablecoins before engaging in cryptocurrency transactions. The crypto crash revealed that, despite their promise of stability, stablecoins are vulnerable to investor runs whenever there are serious doubts about the adequacy of their reserves.

As explained in Part I.C, the crypto boom was fueled by huge fiscal stimulus programs and expansive monetary policies that governments and central banks adopted during the Covid-19 pandemic crisis. Crypto firms amplified the boom with aggressive and deceptive marketing campaigns that targeted unsophisticated retail investors. The crypto crash began in late 2021, as governments reduced their fiscal stimulus programs and central banks began to tighten their monetary policies in response to rising inflation. A series of failures among leading crypto firms intensified the crypto crash during 2022. Those failures revealed pervasive misconduct by crypto insiders, including fraud, conflicts of interest, market manipulation, self-dealing, and misappropriation of customer funds.

Part II of this article analyzes the growing presence of banks in the crypto ecosystem, a development that occurred with the approval or acquiescence of federal and state regulators. As discussed in Part II.A, regulators allowed uninsured depository institutions, trust companies, and FDIC-insured banks to issue and distribute stablecoins and provide deposit, credit, custodial, and payment services to crypto firms. At least two FDIC-insured banks offered crypto trading services to their customers either directly or indirectly through an affiliate.

As explained in Part II.B., several FDIC-insured banks with significant crypto-related exposures experienced serious problems during the crypto crash. Three of those banks failed in March 2023. Those failures threatened

the stability of the U.S. banking system and caused federal authorities to rescue uninsured depositors and establish an emergency lending program for banks.

The federal bailout of uninsured depositors at one of the failed banks—Silicon Valley Bank (SVB)—prevented a potential crypto crisis. The sponsor of the world’s second-largest stablecoin deposited \$3.3 billion of the stablecoin’s reserves in SVB, and that stablecoin probably would have suffered a devastating run if SVB’s uninsured depositors had not been protected by federal authorities. The events of March 2023 heightened concerns about the dangers that crypto-assets pose to our banking system.

As discussed in Part II.C, several FDIC-insured banks have pursued plans to create digital payment networks that would provide instantaneous payments and (in some cases) connect banks with central banks. Those payment networks intend to use stablecoins, tokenized deposits, and central bank digital currencies. In view of those ongoing efforts, policymakers must regulate the issuance and distribution of stablecoins and tokenized deposits to protect the banking system and prevent nonbanks from creating dangerous new forms of shadow deposits and shadow banking.

Part III presents a three-part plan for responding to the risks posed by fluctuating-value cryptocurrencies and stablecoins. First, policymakers must protect investors by recognizing the Securities and Exchange Commission (SEC) as the primary federal regulator of most fluctuating-value cryptocurrencies. Federal securities laws provide a superior regime for regulating such crypto-assets as well as the exchanges on which they are traded and the broker-dealers that conduct transactions in those instruments. In particular, the SEC has broader powers, a more robust mandate to protect investors, and a stronger enforcement record than the Commodity Futures Trading Commission (CFTC).

Second, federal bank regulators must protect the banking system by prohibiting all FDIC-insured banks and their affiliates from investing and trading in fluctuating-value cryptocurrencies, either on their own behalf or on behalf of others. In view of the extreme risks created by fluctuating-value cryptocurrencies, federal bank regulators should determine that investing and trading in such crypto-assets (either as principal or agent) constitute unsafe and unsound practices that are forbidden to FDIC-insured banks and their affiliates. In addition, federal bank regulators should ban FDIC-insured banks and their affiliates from providing credit, custodial, deposit, payment, or other financial services to firms that sell or trade in fluctuating-value cryptocurrencies unless those entities (and their ultimate parent companies) are registered with and regulated by the SEC and/or the CFTC.

Third, Congress must protect the banking system, and prevent the rise of hazardous new forms of shadow deposits and shadow banking, by requiring

that all issuers and distributors of stablecoins and tokenized deposits must be FDIC-insured banks. That requirement would ensure that all providers of stablecoins and tokenized deposits must comply with the regulatory regime governing FDIC-insured banks and their parent companies and other affiliates. That regime provides crucial safeguards for our banking system, our economy, and our society. Congress should reject alternative proposals that would allow nonbanks or uninsured depository institutions to issue or distribute stablecoins or tokenized deposits. Allowing nonbanks or uninsured depository institutions to issue or distribute such financial instruments would jeopardize the safety and stability of our banking and payment systems and pose great risks to persons who entrust their funds to those institutions.

The foregoing three-part plan would protect investors in cryptocurrencies, shield our banking system from crypto-related hazards, and greatly reduce the risk that future disruptions in crypto markets could undermine the safety and stability of our financial system and harm our economy. The second and third reforms are also urgently needed to establish strong prudential boundaries between our banking system and the crypto industry.

I. THE CRYPTO CRASH DEMONSTRATED THAT FLUCTUATING-VALUE CRYPTOCURRENCIES AND STABLECOINS POSE SEVERE RISKS TO INVESTORS AND OUR BANKING SYSTEM

A. Fluctuating-Value Cryptocurrencies Inflicted Huge Losses on Investors During the Crypto Crash and Have Not Produced Meaningful Benefits.

Crypto advocates argued that Bitcoin, Ethereum, and other fluctuating-value cryptocurrencies would protect investors against inflation and help investors to diversify their portfolios against the risks generated by traditional financial assets.¹⁴ However, Bitcoin and Ethereum did not serve

14. For discussions of claims that fluctuating-value cryptocurrencies would serve as hedges against inflation and provide other diversification benefits, see Yaël Bizouati-Kennedy, *Bitcoin Bulls Argue for Crypto as a Hedge Against Soaring Inflation*, GOBANKINGRATES (Dec. 13, 2021), <https://www.gobankingrates.com/investing/crypto/bitcoin-bulls-crypto-hedge-against-soaring-inflation/> [https://perma.cc/82P8-ADQR]; ECONOMIC REPORT OF THE PRESIDENT 244, 251 (2023), <https://www.whitehouse.gov/wp-content/uploads/2023/03/ERP-2023.pdf> [https://perma.cc/WX32-KE2T]; Derek Horstmeyer, Junchen Xia & Maciej Kowalski, *Digital Gold or Fool's Gold? Is Crypto Really a Hedge Against Equity Risk?*, CFA INST. (July 12, 2022), <https://blogs.cfainstitute.org/investor/2022/07/12/digital-gold-or-fools-gold-is-crypto-really-a-hedge-against-equity-risk/> [https://perma.cc/Z5JZ-NHLX]; PGIM, CRYPTOCURRENCY INVESTING: POWERFUL DIVERSIFIER OR PORTFOLIO KRYPTONITE? 1, 9, 16–24 (2022), <https://insights.pgim.com/pdf/PGIM-Megatrends-Cryptocurrency-Investing-Whitepaper-English-0622.pdf> [https://perma.cc/5ZZL-7D93].

as effective hedges against rising inflation during late 2021 and 2022.¹⁵ In addition, Bitcoin, Ethereum, and other fluctuating-value cryptocurrencies did not provide diversification benefits for investors during the crypto crash.¹⁶

Prices for cryptocurrencies were highly correlated with each other during the crypto boom and crash in 2020–22, as they were during a similar boom-and-bust episode in 2017–18. FSOC found that “crypto-asset prices have tended to be widely correlated with each other, exposing crypto-asset market participants to largely non-diversifiable risk inside the crypto-asset ecosystem.”¹⁷ Similarly, a Federal Reserve Bank of Chicago staff study determined that most price movements in fluctuating-value cryptocurrencies between 2018 and 2021 were caused by “linkages” with price movements in other cryptocurrencies.¹⁸ That study concluded that “only a small fraction [of price movements] can be ascribed to the idiosyncratic characteristics of individual digital currencies,” and most price changes reflected “aggregate or common shocks influencing the market as a whole.”¹⁹

In addition to strong correlations among prices for crypto-assets during the crypto boom and crash, FSOC found evidence of increased correlations between price swings for crypto-assets and price movements for “risky traditional assets such as broad equity indexes.”²⁰ From 2020 to 2022,

15. Jon Cunliffe, Deputy Governor for Fin. Stability, Bank of Eng., Some Lessons from the Crypto Winter (July 12, 2022), <https://www.bankofengland.co.uk/speech/2022/july/jon-cunliffe-speech-on-crypto-market-developments-at-the-british-high-commission-singapore> [https://perma.cc/28MJ-BC86]; PGIM, *supra* note 14, at 16–17; *see also* ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 251 (“[A]s inflation increased globally in the second half of 2021 and in 2022, the prices of crypto assets collapsed, proving them to be, at best, an ineffective inflation hedge.”).

16. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 22–25; PGIM, *supra* note 14, at 1, 16–24; *see also* Horstmeier et al., *supra* note 14 (“In times of panic, the correlation between crypto and the stock market actually increases. . . [During] market downturns, crypto has served as more of an anti-hedge, with its correlation with the S&P 500 rising as stocks plunge.”); Tomonori Yuyama, Yusuke Ikeno, Shuran Zhang, Shin’ichiro Matsuo & James Angel, Can Crypto Assets Be Safe-Haven Assets During Crisis Periods? 7, 12 (July 31, 2022) (unpublished manuscript), <https://ssrn.com/abstract=4346079> [https://perma.cc/KA26-Q4JA] (finding that Bitcoin and Ethereum did not act as “safe-haven assets” during the crypto crash because their correlations with the S&P 500 increased during that period).

17. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 25; *see also* Ralph Auer, Marc Farag, Ulf Lewrick, Lovrenc Orazem & Markus Zoss, *Banking in the Shadow of Bitcoin? The Institutional Adoption of Cryptocurrencies* 5 (Bank for Int’l Settlements, Working Paper No. 1013, 2022) [*hereinafter* Auer et al., *Banking and Bitcoin*], <https://www.bis.org/publ/work1013.pdf> [https://perma.cc/9FQ7-QHAW] (discussing the crypto boom-and-bust cycles of 2017–18 and 2020–22).

18. Felippo Ferroni, *How Interconnected Are Cryptocurrencies and What Does This Mean for Risk Measurement?*, CHI. FED LETTER, no. 466, Mar. 2022, <https://www.chicagofed.org/publications/chicago-fed-letter/2022/466> [https://perma.cc/D4F5-SCBK].

19. *Id.*

20. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 22–23; *see also* Kevin Zhao, *Risk Spotlight: OFR Identifies Three Ways DeFi Growth Could Threaten Financial Stability*, OFF. FIN. RSCH.: OFR

changes in the prices of Bitcoin and other fluctuating-value cryptocurrencies followed—but with much greater extremes—price trends in U.S. and global equity markets.²¹ As indicated above, the total market capitalization of cryptocurrencies increased by almost 1,500% between April 2020 and November 2021 and then dropped by more than 70% by December 2022.²² The total market capitalization of stocks included in the S&P 500 index exhibited a similar but less extreme trend line, almost doubling between March 2020 and December 2021, and then declining by 20% by December 2022.²³ A widely used index for global stocks followed the same pattern—nearly doubling between March 2020 and December 2021 and then falling by 20% by December 2022.²⁴

Like FSOC’s review, an International Monetary Fund (IMF) staff study determined that correlations in investment returns and volatility between crypto markets and U.S. and global equity markets “increased notably” during 2020 and 2021.²⁵ The IMF staff study found that “interconnectedness” and “spillovers” between crypto markets and equity markets increased significantly during the same period.²⁶ The study warned that “crypto assets . . . could potentially pose financial stability risks due to their extreme price volatility.”²⁷ Three other studies concluded that, between

BLOG (Feb. 7, 2023), <https://www.financialresearch.gov/the-ofr-blog/2023/02/07/ofr-identifies-three-ways-defi-growth-could-threaten-financial-stability/> [https://perma.cc/HE3K-68L8] (“[T]he 30-day rolling correlation between the returns on Bitcoin and the S&P 500 has increased noticeably since the beginning of 2021.”).

21. Tobias Adrian, Tara Iyer & Mahvash S. Qureshi, *Crypto Prices Move More in Sync with Stocks, Posing New Risks*, IMF BLOG (Jan. 11, 2022), <https://www.imf.org/en/Blogs/Articles/2022/01/11/crypto-prices-move-more-in-sync-with-stocks-posing-new-risks> [https://perma.cc/K2MJ-CDAP]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 22–25; Iyer, *supra* note 5, at 3–5; Benjamin Purvis & Tatania Darie, *Tech and Crypto in Peril as Fed Ends Liquidity Binge, Survey Shows*, BLOOMBERG (June 6, 2022, 5:24 AM), <https://www.bloomberg.com/news/articles/2022-06-05/tech-and-crypto-in-peril-as-fed-ends-liquidity-binge-mliv-pulse> [https://perma.cc/269M-Z65R]; Arthur E. Wilmarth, Jr., Comment Letter to the U.S. Treasury Department Regarding the Risks of Stablecoins 2 & n.6 (Aug. 8, 2022) [hereinafter Wilmarth, Treasury Comment Letter], <http://ssrn.com/abstract=4205062> [https://perma.cc/C22G-9H57].

22. See *supra* notes 2–7 and accompanying text (describing the magnitude of the crypto boom and crash).

23. *S&P 500 Market Cap*, YCHARTS, https://ycharts.com/indicators/sp_500_market_cap [https://perma.cc/R2C9-BWAX] (showing that the total market capitalization of stocks included in the S&P 500 index rose from \$21.4 trillion on March 31, 2020, to \$40.4 trillion on December 31, 2021, and then declined to \$32.1 trillion on December 31, 2022).

24. *MSCI ACWI Index Daily Performance*, MSCI, <https://www.msci.com/our-solutions/indexes/acwi> [https://perma.cc/5FRY-J337] (showing that the MSCI ACWI Index rose from 384 on March 23, 2020, to 755 on December 30, 2021, and then declined to 605 on December 30, 2022).

25. Iyer, *supra* note 5, at 2–3.

26. *Id.* at 3.

27. *Id.*; see also Adrian et al., *supra* note 21 (“The increased and sizeable co-movement and spillovers between crypto and equity markets indicate a growing interconnectedness between the two asset classes that permits the transmission of shocks that can destabilize financial markets. . . . [T]heir

2018 and 2022, prices for fluctuating-value cryptocurrencies were highly correlated with each other, were much more volatile than prices for U.S. stocks, and did not provide diversification benefits to investors.²⁸

The foregoing evidence shows that fluctuating-value cryptocurrencies are extremely risky and highly volatile assets that create serious dangers for investors, do not provide inflation hedges or diversification benefits, and pose significant potential risks to financial stability. The hazardous features of cryptocurrencies are aggravated by two major factors. First, cryptocurrencies have not demonstrated any “fundamental current economic uses” for lawful purposes other than speculative investing, trading, and lending.²⁹ In June 2022, a group of 1,500 technology experts stated that, after “thirteen years of development,” the blockchain technology used by cryptocurrencies “has severe limitations and design flaws that preclude almost all applications that deal with public customer data and regulated financial transactions and are not an improvement on existing non-blockchain solutions.”³⁰ A leading financial journal reported in December 2022 that “[a] number of high-profile blockchain experiments in banking and finance have ended in failure this year, undermining the case

increased co-movement could soon pose risks to financial stability especially in countries with widespread crypto adoption.”); Zhao, *supra* note 20 (“[F]uture price declines in or disruptions of the digital-assets market could have spillover effects in traditional financial markets and the real economy.”).

28. Cristina Polizu et al., *A Deep Dive into Crypto Valuation*, S&P GLOB. (Nov. 10, 2022), <https://www.spglobal.com/en/research-insights/featured/special-editorial/understanding-crypto-valuation> [https://perma.cc/9XJZ-CVL6] (discussing high levels of correlation and volatility among cryptocurrencies); PGIM, *supra* note 14, at 1, 16–24 (discussing the lack of diversification benefits from cryptocurrencies); Vikram Rai, *Cryptocurrency: Not a Safe Haven in 2022*, TD ECON. (Aug. 31, 2022), <https://economics.td.com/us-cryptocurrency-not-safe-haven> [https://perma.cc/J7HR-5NRT] (noting all three disadvantages from investing in cryptocurrencies).

29. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 4, 7–9, 23–28; ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 246 (“[C]rypto assets are very volatile, and, hence, highly risky.... [because] many of them do not have a fundamental value.”); *id.* at 251 fig.8-4 (showing that crypto-assets exhibited much higher volatility than traditional investments between 2017 and 2022); *see also infra* notes 350–51 and accompanying text (contending that investing and trading in fluctuating-value cryptocurrencies are highly speculative activities that closely resemble gambling); Cunliffe, *supra* note 15 (stating that Bitcoin and similar cryptocurrencies have “no real economy assets backing them and no means of generating revenue” and “are only worth what the next buyer will pay,” making them “very speculative, risky asset[s]” that are “inherently volatile, very vulnerable to sentiment and prone to collapse”); TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 1 (“[C]rypto-asset products are primarily used to trade, lend, and borrow other crypto-assets.”).

30. Letter in Support of Responsible Fintech Policy from Sal Bayat et al. to Charles E. Schumer, Majority Leader, U.S. Senate et al. (June 1, 2022), <https://concerned.tech/> [https://perma.cc/QC5C-WWA4]. Similarly, the President’s Council of Economic Advisers (CEA) stated in March 2023 that “crypto assets to date do not appear to offer investments with any fundamental value, nor do they act as an effective alternative to fiat money, improve financial inclusion, or make payments more efficient.” ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 238. The CEA found that crypto assets “are largely speculative investment vehicles and are not an effective alternative to fiat currency. Also, they are too risky at present to function as payment instruments or to expand financial inclusion.... [T]hey continue to cause risks for financial markets, investors, and consumers.” *Id.* at 272.

for the technology’s future in financial services.”³¹ It is possible that permissioned distributed ledgers could improve the reliability, speed, and efficiency of large wholesale payments among financial institutions, but the permissionless blockchain technology used by Bitcoin and other cryptocurrencies has not shown any ability to outperform existing payment technologies.³²

Second, fluctuating-value cryptocurrencies are either unregulated or subject to very weak and fragmented forms of regulation. As a result of weak or nonexistent regulation, investors in cryptocurrencies have suffered major losses due to fraud, theft, market manipulation, conflicts of interest, misappropriation of customer funds, malicious hacks, and operational failures.³³ The absence of effective regulation has also encouraged the use of cryptocurrencies by criminals for nefarious purposes such as extortion (including payments coerced by ransomware attacks), money laundering, tax evasion, avoidance of sanctions on terrorist organizations, drug trafficking, and illegal gambling.³⁴

31. Martha Muir, *Case for Blockchain in Financial Services Dented by Failures*, FIN. TIMES (Dec. 29, 2022), <https://www.ft.com/content/cb606604-a89c-4746-9524-e1833cd4973e> [<https://perma.cc/4GDW-SWV3>]; see also *Crypto Crash: Why Financial System Safeguards are Needed for Digital Assets: Hearing Before the S. Comm. on Banking, Hous. & Urb. Affs.*, 118th Cong. 4 (2023) (statement of Lee Reiners, Policy Director, Duke Financial Economics Center, Duke University) [hereinafter Reiners Testimony] (“After fourteen years and innumerable claims that crypto represents the future of money, finance, or something else, we have yet to see crypto’s killer use case.”); TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 1 (“[T]he potential for blockchain technology to transform the provision of financial services, as espoused by developers and proponents, has yet to materialize.”).

32. See *infra* notes 296–302 and accompanying text. A “permissioned” distributed ledger is a closed network that can be accessed only by persons who have received permission from the ledger’s administrator to conduct transactions on that ledger. A permissioned ledger’s administrator operates the ledger, controls access to the ledger, and maintains the definitive record of transactions occurring on the ledger. In contrast, a “permissionless” distributed ledger, such as Bitcoin’s blockchain, does not have a centralized administrator and is an “open source” network that can be used by any person who satisfies the ledger’s criteria for participation. Hilary, *supra* note 10, at 5–11; Jake Frankenfield, *Permissioned Blockchain: Definition, Examples, Vs. Permissionless*, INVESTOPEDIA (Jan. 24, 2022), <https://www.investopedia.com/terms/p/permissioned-blockchains.asp> [<https://perma.cc/B6YD-RVF8>] (noting that a bank can operate a permissioned distributed ledger “through a designated number of nodes internal to the bank to track money transfers”).

33. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 29–45, 68–74, 97–103, 114–16; ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 256–58, 264–65; Reiners Testimony, *supra* note 31, at 4–6; TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 2–3, 6–12, 25–42, 48.

34. ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 265–68; U.S. DEP’T OF JUST., THE ROLE OF LAW ENFORCEMENT IN DETECTING, INVESTIGATING, AND PROSECUTING CRIMINAL ACTIVITY RELATED TO DIGITAL ASSETS 4–10, 18–25, 30 (2022), <https://www.justice.gov/media/1245466/dl?inline=1> [<https://perma.cc/YU42-UKLK>]; U.S. DEP’T OF THE TREASURY, ACTION PLAN TO ADDRESS ILLICIT FINANCING RISKS OF DIGITAL ASSETS 1–7 (2022) [hereinafter TREASURY ACTION PLAN], <https://home.treasury.gov/system/files/136/Digital-Asset-Action-Plan.pdf> [<https://perma.cc/8ZMX-GHBE>]; Samuel Hoy Brown VII, Note, *Gambling on the Blockchain: How the Unlawful Internet Gambling Enforcement Act Has Opened the Door for Offshore Crypto Casinos*, 24 VAND. J. ENT. & TECH. L. 535, 536–38, 541–50 (2022); see also Scott Chipolina, *Coinbase and Binance Diverge in Outlook for 2023*, FIN. TIMES (Jan. 13, 2023), <https://www.ft.com/content/6817fceb-01c9-4531-9965->

Binance is largely unregulated even though it operates the world's largest cryptocurrency exchange and controls more than half of global trading in cryptocurrencies.³⁵ Binance's parent company is incorporated in the Cayman Islands and "claims it has no formal headquarters."³⁶ Binance "remains mostly hidden from public view" and "has actively avoided oversight" by establishing numerous affiliates in various jurisdictions.³⁷

2a43b42216be [https://perma.cc/7ZWD-JMJK] (reporting that "the amount of crypto sent to wallet addresses associated with illicit behaviour hit an all-time high" of \$20 billion in 2022); Scott Chipolina, *Crypto's Dark Role in the US Opioid Epidemic*, FIN. TIMES (May 26, 2021), https://www.ft.com/content/1ba78149-2e45-4c6b-9780-b3ebc2c18e3c [https://perma.cc/4M3W-H6YZ] (citing a study by Elliptic finding that "most fentanyl trafficked into the US is manufactured using chemical ingredients imported from Chinese suppliers, and 90 per cent of these suppliers accept cryptocurrency payments"); Jemima Kelly, *Using Crypto for Crime Is Not a Bug – It's an Industry Feature*, FIN. TIMES (Apr. 26, 2023), https://www.ft.com/content/83b5932f-df6f-47a6-bf39-aa0c3172a098 [https://perma.cc/3AH8-NFR7] (contending that crypto "enables crime" because "crypto was designed as a censorship-resistant payment mechanism that operates outside the traditional financial system and beyond the remit of regulators" and noting that "crypto is used not just to buy and sell illegal substances, but 3D-printed firearms, compromised banking credentials, forged documents and child sexual abuse materials"); Reiners Testimony, *supra* note 31, at 6–8 (discussing the use of cryptocurrencies for criminal purposes).

35. Scott Chipolina, *Binance's Dominance of Crypto Trading Grows After FTX's Collapse*, FIN. TIMES (Feb. 8, 2023), https://www.ft.com/content/1fb69ad6-0c1a-4ebd-b2ea-720dc422eeb7 [https://perma.cc/U7SR-KWAB] (noting that Binance "hosted 55 per cent of the world's spot crypto trading in January [2023]" and accounted for 61% of "on-exchange crypto derivatives trading"); Omer Farooq, *5 Biggest Cryptocurrency Exchanges in the World*, INSIDER MONKEY (Nov. 24, 2022, 6:39 PM), https://www.insidermonkey.com/blog/5-biggest-cryptocurrency-exchanges-in-the-world-1089996/?singlepage=1 [https://perma.cc/DW85-KTU7] (reporting that Binance was the world's largest cryptocurrency exchange by a large margin); Angus Berwick & Tom Wilson, *Crypto Giant Binance Kept Weak Money-Laundering Checks Even as It Promised Tougher Compliance, Documents Show*, REUTERS (Jan. 21, 2022, 1:05 PM), https://www.reuters.com/investigates/special-report/finance-crypto-currency-binance/ [https://perma.cc/67D3-JPWV] ("[Binance] dominates spot and derivatives trading [in cryptocurrencies], with a share of over 50% in November 2021."); *id.* ("Binance is the world's biggest cryptocurrency exchange by volume."); Tom Wilson, Angus Berwick & Elizabeth Howcroft, *Special Report: Binance's Books Are a Black Box, Filings Show, as It Tries to Rally Confidence*, REUTERS (Dec. 19, 2022, 8:35 PM), https://www.reuters.com/technology/binances-books-are-black-box-filings-show-crypto-giant-tries-rally-confidence-2022-12-19/ [https://perma.cc/9Y8Y-RNQE] (reporting that Binance "accounts for over half of all trading volume" in cryptocurrencies worldwide, but its parent company has "actively avoided oversight" by global regulators).

36. Chipolina, *supra* note 35; see also Adam Samson & Brooke Masters, *Binance Crackdown: Regulators Tussle with 'Wild West' of Crypto*, FIN. TIMES (July 2, 2021), https://www.ft.com/content/a10c297f-c8dd-48b1-9744-09d4ff2e89ca [https://perma.cc/2E6Q-EC4N] (reporting that Binance is "[i]ncorporated in the Cayman Islands" but "has no headquarters").

37. Wilson, Berwick & Howcroft, *supra* note 35; see also Caitlin Ostroff & Patricia Kowsmann, *Binance Texts Reveal Plan to Elude U.S. Authorities*, WALL ST. J., Mar. 6, 2023, at A1 (reporting that Binance established an ostensibly "independent" U.S. platform to "shield from U.S. regulators' scrutiny the larger Binance.com exchange," while in fact the two companies were "much more intertwined than the companies have disclosed, mixing staff and finances and sharing an affiliated entity that bought and sold cryptocurrencies"); Samson & Masters, *supra* note 36 (explaining that Binance operates "around the world through a constellation of affiliates"); Tom Wilson & Angus Berwick, *How Binance CEO and Aides Plotted to Dodge Regulators in U.S. and UK*, REUTERS (Oct. 17, 2022, 11:00 AM), https://www.reuters.com/investigates/special-report/fintech-crypto-binance-zhao/ [https://perma.cc/X5HU-ZMZ4]. Binance's consolidated financial statements are a "black box" because they are not publicly disclosed or subject to independent audits. See Wilson, Berwick & Howcroft, *supra* note 35.

In March 2023, the CFTC filed a civil enforcement suit against Binance, its CEO (Changpeng Zhao), and its former chief compliance officer (Samuel Lim). The CFTC's lawsuit charged Binance, Zhao, and Lim with "willful evasion of the requirements of the CEA [(Commodity Exchange Act)]."³⁸ According to the CFTC's complaint, Binance (under the leadership of Zhao and Lim) conducted digital commodity derivatives transactions for U.S. customers without registering with the CFTC or complying with the CEA's requirements.³⁹ Based on Binance's willful efforts to avoid the CFTC's jurisdiction—including Binance's creation of a "maze of corporate entities" outside the United States—the CFTC's lawsuit sought a permanent injunction to prevent Binance from serving U.S. customers until Binance fully complied with the CEA.⁴⁰

B. Stablecoins Promise Stable Values but Are Highly Vulnerable to Investor Runs.

Unlike cryptocurrencies with fluctuating values, stablecoins are ostensibly designed to maintain parity with a designated fiat currency or another referenced asset or group of assets.⁴¹ Most stablecoins are either (i) fiat-linked stablecoins, which maintain financial reserves and seek to maintain parity with a designated fiat currency, or (ii) algorithmic stablecoins, whose value depends on a trading or collateral-based

38. Press Release, Commodity Futures Trading Comm'n, CFTC Charges Binance and Its Founder, Changpeng Zhao, with Willful Evasion of Federal Law and Operating an Illegal Digital Asset Derivatives Exchange (Mar. 27, 2023), <https://www.cftc.gov/PressRoom/PressReleases/8680-23> [<https://perma.cc/67KW-QHEG>].

39. *Id.*

40. Dave Michaels & Vicky Ge Huang, *Regulator Suit Seeks to Ban Binance in U.S.*, WALL ST. J., Mar. 28, 2023, at A1 (quoting the CFTC's complaint); Scott Chipolina & Stefania Palma, *Crypto Exchange Binance Accused by CFTC of Illegally Serving US Clients*, FIN. TIMES (Mar. 27, 2023), <https://www.ft.com/content/bb72a4c1-259d-4d3e-a048-d02e790e38a4> [<https://perma.cc/JW8F-6GZ3>].

In June 2023 (after the manuscript for this article was completed), the SEC filed a civil enforcement suit against Binance and Zhao, alleging that they violated federal securities laws by (i) operating unregistered securities exchanges, brokers, and clearing agencies; (ii) making unregistered offers and sales of crypto assets that constituted "securities"; and (iii) misleading U.S. customers and equity investors about the true nature of Binance's operations. Press Release, SEC, SEC Files 13 Charges Against Binance Entities and Founder Chengpeng Zhao (June 5, 2023), <https://www.sec.gov/news/press-release/2023-101> [<https://perma.cc/AM2T-VEFW>].

41. Mitsu Adachi et al., *Stablecoins' Role in Crypto and Beyond: Functions, Risks and Policy*, EUR. CENT. BANK: MACROPRUDENTIAL BULL. (July 11, 2022), https://www.ecb.europa.eu/pub/financial-stability/macrop prudential-bulletin/html/ecb.mpbu202207_2~836f682ed7.en.html [<https://perma.cc/TF9T-WNKN>]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 7; Igor Makarov & Antoinette Schoar, Cryptocurrencies and Decentralized Finance (DeFi) 20–21 (Apr. 24, 2022) (unpublished manuscript), <https://ssrn.com/abstract=4104550> [<https://perma.cc/MVJ4-2GHT>]; TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 5, 21.

relationship with one or more crypto-assets.⁴² During 2022 and early 2023, “more than 90% of outstanding stablecoins were asset-backed stablecoins, and over 99% of those stablecoins stated that they would maintain parity with the U.S. dollar.”⁴³

Stablecoins have played a major role in crypto markets in recent years. The total volume of outstanding stablecoins rose from less than \$6 billion in January 2020 to \$181 billion in April 2022, before declining to \$139 billion in December 2022 and \$129 billion in March 2023.⁴⁴ Stablecoins increased their share of the total cryptocurrency market from 2.2% in January 2020 to 17.3% in December 2022, and they held a 10.8% market share in March 2023.⁴⁵

Stablecoins are the most widely accepted form of payment for investing and trading in cryptocurrencies and the most frequently used collateral for borrowing and lending cryptocurrencies. Stablecoins provide the primary link between traditional financial markets and cryptocurrency markets because participants typically convert their fiat money into stablecoins before engaging in cryptocurrency transactions.⁴⁶ “In September 2021,

42. Adachi et al., *supra* note 41; BIS 2022 ANNUAL REPORT, *supra* note 9, at 81; Markhov & Schoar, *supra* note 41, at 20–21; Megan DeMatteo, *What’s the Point of Stablecoins? The Reasons, Risks and Types to Know*, COINDESK (Mar. 22, 2023, 4:12 PM), <https://www.coindesk.com/learn/whats-the-point-of-stablecoins-understanding-why-they-exist/> [https://perma.cc/BN6U-SFG9]; Wilmarth, Treasury Comment Letter, *supra* note 21, at 1.

43. Wilmarth, Treasury Comment Letter, *supra* note 21, at 1–2; see, e.g., Mike Antolin & Toby Bochan, *Fiat-Backed Stablecoins: What You Need to Know About Tether, USD Coin and Others*, COINDESK (Mar. 22, 2023, 4:12 PM), <https://www.coindesk.com/learn/fiat-backed-stablecoins-what-you-need-to-know-about-tether-usd-coin-and-others/> [https://perma.cc/42NG-7RRX]; *Stablecoins: Share of Ethereum Fiat Stablecoin Supply (in USD) by Currency*, BLOCK, <https://www.theblock.co/data/decentralized-finance/stablecoins> [https://perma.cc/DHN9-H5DU]. Unless otherwise indicated below, this article’s analysis of stablecoins focuses on fiat-linked stablecoins.

44. *Stablecoins: Total Stablecoin Supply*, BLOCK [hereinafter *Stablecoin Supply Graph*], <https://www.theblock.co/data/decentralized-finance/stablecoins> [https://perma.cc/MG8L-YFAD].

45. Compare *id.* (showing that the total supply of stablecoins was \$5.8 billion on January 30, 2020, \$138.7 billion on December 31, 2022, and \$129.0 billion on March 31, 2023), with *Cryptocurrency Market Cap Graph*, *supra* note 6 (showing that the total market capitalization of all cryptocurrencies was \$260 billion on January 31, 2020, \$800 billion on December 31, 2022, and \$1.19 trillion on March 31, 2023).

46. See, e.g., Adachi et al., *supra* note 41; FIN. STABILITY BD., ASSESSMENT OF RISKS TO FINANCIAL STABILITY FROM CRYPTO-ASSETS 13–14 (2022), <https://www.fsb.org/wp-content/uploads/P160222.pdf> [https://perma.cc/4APH-ZQG8]; TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 16; Wilmarth Treasury Comment Letter, *supra* note 21, at 2; see also Scott Chipolina, *Crypto Group Circle Ends \$9bn Deal to Go Public Through Bob Diamond’s Spac*, FIN. TIMES (Dec. 5, 2022), <https://www.ft.com/content/c414257e-a917-4e2b-a022-572268d77515> [https://perma.cc/6YL9-R5MF] (“Stablecoins play a key role in connecting traditional and crypto markets Crypto traders use them like cash between making bets.”); FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 45 (“Stablecoins provide a key operational service supporting speculative trading, lending and borrowing among platforms, and protocols.”); Gary B. Gorton, Elizabeth C. Klee, Chase P. Ross, Sharon Y. Ross & Alexandros P. Vardoulakis, *Leverage and Stablecoin Pegs 2* (Nat’l Bureau of Econ. Rsch., Working Paper No. 30796, 2022), <https://papers.ssrn.com/abstract=4304954> [https://perma.cc/MFA6-8EKV] (“The advantage of stablecoins over fiat currencies is that stablecoins live on the blockchain and face lower transaction costs of using them as a store of value between trades and allow for faster trading.”).

around 75% of all trading on crypto trading platforms involved a stablecoin.”⁴⁷ Thus, stablecoins “play a key role in facilitating transactions across the plethora of cryptocurrencies that have mushroomed in recent years.”⁴⁸

The global stablecoin market is highly concentrated. The three largest stablecoins—Tether, USD Coin (USDC), and Binance USD Coin (BUSD)—collectively accounted for over 90% of outstanding stablecoins in December 2022 and March 2023.⁴⁹ All three of those fiat-linked stablecoins are closely connected to leading cryptocurrency exchanges that provide trading, borrowing, and lending services to customers. BUSD, the third-largest stablecoin, was cosponsored by Binance and Paxos Trust, and Binance operates the world’s largest cryptocurrency exchange by trading volume.⁵⁰ USDC, the second-largest stablecoin, is issued by Centre, a consortium jointly owned by Circle and Coinbase.⁵¹ Coinbase operates the world’s second-largest cryptocurrency exchange.⁵² Tether, the largest stablecoin, is controlled by a small group of shareholders who also control Bitfinex, the world’s twelfth-largest cryptocurrency exchange.⁵³

47. FIN STABILITY BD., *supra* note 46, at 13.

48. BIS 2022 ANNUAL REPORT, *supra* note 9, at 78; *see also* Ben Foldy & Ada Hui, *Tether Used Deception to Open Accounts*, WALL ST. J., Mar. 4, 2023, at B1 (explaining that Tether, the world’s largest stablecoin, is “the most widely traded cryptocurrency” as well as “an important entry and exit point for crypto investing and a crucial source of liquidity in the crypto economy”).

49. Tether, USD, and BUSD accounted for more than 92% of outstanding stablecoins in December 2022 and March 2023. *Stablecoin Supply Graph*, *supra* note 44 (showing that Tether, USDC and BUSD together issued \$128.6 billion of the \$138.7 billion of outstanding stablecoins on December 31, 2022, and \$119.8 billion of the \$129.8 billion of outstanding stablecoins on March 28, 2023); *see also* Oluwapelumi Adejumo & Ryan James, *BUSD Supply Crosses \$20B, Cuts into USDC Market Share*, BEINCRYPTO (Oct. 23, 2022, 1:00 PM), <https://beincrypto.com/busd-supply-crosses-20b-cuts-into-usdc-market-share/> [https://perma.cc/4L5G-PW6W] (reporting that Tether, USDC, and BUSD had a combined market share of 91.5% of the global stablecoin market in October 2022); Wilmarth, Treasury Comment Letter, *supra* note 21, at 3 n.11 (stating that Tether, USDC, and BUSD accounted for 90.5% of outstanding stablecoins in July 2022).

50. Farooq, *supra* note 35 (identifying Binance as the world’s largest cryptocurrency exchange); *infra* notes 169, 395–96 and accompanying text (explaining that Binance and Paxos Trust were the cosponsors of BUSD and that the New York Department of Financial Services ordered Paxos Trust to stop issuing new BUSD coins in February 2023).

51. Wilmarth, Treasury Comment Letter, *supra* note 21, at 3.

52. Farooq, *supra* note 35. In June 2023 (after the manuscript for this article was completed), the SEC filed a civil enforcement suit against Coinbase, alleging that Coinbase violated federal securities laws by (i) operating as an unregistered securities exchange, broker, and clearing agency and (ii) making unregistered offers and sales of “crypto asset securities” through its “staking-as-a-service program.” Press Release, SEC, SEC Charges Coinbase for Operating as an Unregistered Securities Exchange, Broker, and Clearing Agency (June 6, 2023), <https://www.sec.gov/news/press-release/2023-102> [https://perma.cc/LEP2-FUFY]. The SEC’s complaint sought “injunctive relief, disgorgement of ill-gotten gains plus interest, penalties, and other equitable relief” against Coinbase. *Id.*

53. Omer Farooq, *15 Biggest Crypto Exchanges in the World*, YAHOO (Nov. 24, 2022), <https://www.yahoo.com/video/15-biggest-cryptocurrency-exchanges-world-234405631.html> [https://perma.cc/67UB-RB7U] (naming Bitfinex as the world’s twelfth-largest cryptocurrency exchange by trading volume); *see* Ben Foldy, Ada Hui & Peter Rudegeair, *Tether’s Managers Are Atypical Group*,

Despite their promises of stable values, stablecoins have often failed to maintain adequate reserves to ensure parity with their referenced fiat currency. In June 2021, the Iron crypto-backed stablecoin lost its \$1 peg and collapsed after investors ran on its affiliated Titan token, which accounted for a quarter of Iron's reserves.⁵⁴ In January 2023, Binance acknowledged the existence of repeated and undisclosed shortfalls in the reserves for one of its fiat-linked stablecoins during 2020 and 2021.⁵⁵ An investor run did not occur against that stablecoin because investors did not know about its inadequate reserves.⁵⁶ In May 2022, the TerraUSD algorithmic stablecoin collapsed, and Tether temporarily lost its peg to the U.S. dollar.⁵⁷ Tether again briefly lost its peg to the U.S. dollar in November 2022, when FTX and Alameda failed.⁵⁸ USDC temporarily lost its peg to the U.S. dollar in March 2023, when \$3.3 billion of its reserves were frozen for a few days following the collapse of Silicon Valley Bank.⁵⁹

The failures of Iron, TerraUSD, and more than twenty other stablecoins demonstrate that stablecoins are vulnerable to catastrophic runs whenever there are widely shared concerns about the adequacy of their reserves.⁶⁰ Even stablecoins with substantial reserves are likely to experience large redemptions when significant disruptions occur in cryptocurrency markets or the banking system. Since 2019, the three leading stablecoins (Tether,

WALL ST. J., Feb. 3, 2023, at B1 (describing the group of shareholders that control Bitfinex and Tether); *see also Stablecoin Supply Graph*, *supra* note 44 (showing that Tether had \$70.5 billion of outstanding stablecoins on December 31, 2022, and \$80.5 billion of outstanding stablecoins on March 31, 2023, compared with \$41.5 billion and \$30.8 billion for USDC and \$16.6 billion and \$7.6 billion for BUSD on those dates).

54. David Z. Morris, *Paying the IRON Price: Fractional Reserve Banking on a Blockchain*, COINDESK (Sept. 14, 2021, 8:13 AM), <https://www.coindesk.com/policy/2021/06/17/paying-the-iron-price-fractional-reserve-banking-on-a-blockchain/> [https://perma.cc/R9HM-T7FS]; *see also* FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 47 (discussing Iron's collapse).

55. Emily Nicolle & Muyao Shen, *Binance Acknowledges Past Flaws in Maintaining Stablecoin Backing*, BLOOMBERG (Jan. 10, 2023, 1:16 PM), <https://www.bloomberg.com/news/articles/2023-01-10/binance-bnb-acknowledges-past-flaws-in-managing-busd-peg-stablecoin-reserves> [https://perma.cc/RR2P-LXD2] (describing persistent shortfalls in Binance's reserves for its Binance-peg BUSD stablecoin during 2020 and 2021 and noting that those shortfalls exceeded \$1 billion on three occasions).

56. *Id.*

57. Foldy et al., *supra* note 53; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 15–16, 45–53; *see also infra* notes 90–96 and accompanying text (discussing the collapse of TerraUSD and Tether's loss of its peg to the U.S. dollar in May 2022).

58. Foldy et al., *supra* note 53; Shaurya Malwa, *Tether's USDT Stablecoin Drops 3% Below \$1 Peg*, COINDESK (Nov. 10, 2022), <https://www.coindesk.com/markets/2022/11/10/tethers-usdt-stablecoin-slips-from-1-peg/> [https://perma.cc/QY7Q-PAP3].

59. *See infra* notes 255–62, 282–85 and accompanying text (discussing USDC's loss of its peg to the U.S. dollar in March 2023).

60. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 46–52, 75; Gorton et al., *supra* note 46, at 2–3, 26–27; *see also* *Comprehensive List of Failed Stablecoins*, CHAINSEC, <https://cryptosec.info/failed-stablecoins/> [https://perma.cc/YA2R-LYNM] (stating that twenty-three stablecoins failed between 2016 and 2022).

USDC, and BUSD) have each experienced single-day redemptions exceeding 4% of their market capitalizations.⁶¹ Those redemption levels are “economically large compared to the traditional banking system.”⁶²

C. Aggressive Marketing Campaigns by Crypto Firms Intensified Crypto’s Boom, While Scandalous Failures Accelerated Its Crash.

Dramatic changes in global fiscal and monetary policies played major roles in igniting the crypto boom and triggering the crypto crash. Crypto firms amplified the crypto boom with deceptive, high-powered marketing campaigns that targeted unsophisticated retail investors. Failures of leading crypto firms and associated scandals intensified the crypto crash by undermining investor confidence in crypto markets.

1. Crypto Firms Magnified the Crypto Boom by Targeting Retail Investors.

Following the outbreak of the COVID-19 pandemic in early 2020, many governments and central banks implemented large fiscal stimulus programs and adopted expansive monetary policies to support their economies and stabilize their financial systems. Congress approved \$5.2 trillion of fiscal stimulus programs between March 2020 and March 2021—a response that was four times as large as Congress’s stimulus measures during the Great Recession of 2007–09.⁶³ The United States and other nations collectively approved \$16 trillion of fiscal stimulus programs between March 2020 and March 2021.⁶⁴ Fiscal stimulus measures during 2020 and 2021 exceeded 25% of national GDP in the United States, United Kingdom, Germany, and Italy.⁶⁵

61. Gorton et al., *supra* note 46, at 24, 26–27, 39 tbl.4.

62. *Id.* at 24.

63. Arthur E. Wilmarth, Jr., *The Pandemic Crisis Shows that the World Remains Trapped in a “Global Doom Loop” of Financial Instability, Rising Debt Levels, and Escalating Bailouts*, BANKING & FIN. SERVS. POL’Y REP., Aug. 2021, at 1, 4–5 [hereinafter Wilmarth, *Pandemic Crisis*], <https://ssrn.com/abstract=3901967> [<https://perma.cc/M42U-EW57>]; see also Christina D. Romer, *Lessons from Fiscal Policy in the Pandemic: The ODE Distinguished Economist Award Lecture*, 67 AM. ECONOMIST, no. 2, 2022, at 164 (comparing the federal government’s fiscal responses to the pandemic and the Great Recession).

64. See Wilmarth, *Pandemic Crisis*, *supra* note 63, at 5; see also Kristalina Georgieva, IMF Managing Dir., *Giving People a Fair Shot—Policies to Secure the Recovery* (Mar. 30, 2021), <https://www.imf.org/en/News/Articles/2021/03/25/sp033021-SMs2021-Curtain-Raiser> [<https://perma.cc/5JE4-QVU9>] (“[G]overnments took exceptional measures [in response to the pandemic]—including about \$16 trillion in fiscal action and a massive liquidity injection by central banks.”).

65. Hans Degryse & Cédric Huylebroek, *Preventing a Banking Crisis: Fiscal Support and Loan Loss Provisions During the COVID-19 Pandemic* 10–11, 12 fig.1 (Oct. 4, 2022) (unpublished manuscript), <https://ssrn.com/abstract=4032747> [<https://perma.cc/EX6B-DPET>].

The Federal Reserve System (Fed) and other central banks responded to the pandemic by adopting extraordinary lending and guarantee programs to support their financial institutions and financial markets. Many countries provided fiscal backstops to ensure the success of their central banks' lending and guarantee programs. Central banks aggressively cut their benchmark interest rates—often to zero or below—and implemented quantitative easing (QE) policies that included massive purchases of government bonds, mortgage-backed securities, corporate securities, and other financial assets. The emergency stabilization programs, ultralow interest rate policies, and QE purchases implemented by central banks significantly reduced the costs of borrowing and servicing debts for private-sector and public-sector borrowers.⁶⁶ The pandemic rescue programs of central banks surpassed—in both scale and scope—comparable measures of central banks during the Great Recession.⁶⁷

The Fed's purchases of financial assets during the pandemic more than doubled the size of its balance sheet from \$4.17 trillion in January 2020 to \$8.76 trillion in December 2021.⁶⁸ The Fed, the European Central Bank (ECB), the Bank of Japan (BOJ), and the Bank of England (BOE) expanded their combined balance sheets from \$15.5 trillion in December 2019 to \$26.1 trillion in December 2021.⁶⁹ In the United States, the broad (M2) money supply grew by over 40% between December 2019 and December 2021.⁷⁰ Money supply aggregates also recorded double-digit annual growth rates in Australia, Canada, China, the Eurozone, Japan, and the United Kingdom.⁷¹

66. Wilmarth, *Pandemic Crisis*, *supra* note 63, at 5; see also LEV MENAND, THE FED UNBOUND: CENTRAL BANKING IN A TIME OF CRISIS 20–21, 34–60 (2022) (analyzing the Fed's response to the pandemic); June Rhee, Lily S. Engbith, Greg Feldberg & Andrew Metrick, *Market Support Programs: COVID-19 Crisis*, 4 J. FIN. CRISES, no. 2, 2022, at 179 (providing an overview of financial market support measures provided by central banks in the United States, United Kingdom, Canada, Japan, the Eurozone, and four other nations during the pandemic).

67. MENAND, *supra* note 66, at 17–21, 34–60; Rhee et al., *supra* note 66, at 181–85, 197–204, 208–09.

68. *Assets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level*, FRED, <https://fred.stlouisfed.org/series/WALCL> [<https://perma.cc/A4DY-T4YU>] (showing the size of the Fed's balance sheet on January 1, 2020 and December 29, 2021).

69. *Monetary Policy Hub, The Big 4 Central Banks: Total Balance Sheet Assets*, ATL. COUNCIL, <https://www.atlanticcouncil.org/global-qe-tracker/> [<https://perma.cc/VHV6-DQ8U>]; *The Balance Sheets of Central Banks Are Set to Shrink* (illustration), in Katie Martin & Colby Smith, *The Mystery of How Quantitative Tightening Will Affect Markets*, FIN. TIMES (July 9, 2022), <https://www.ft.com/content/435a5e35-bf30-4518-a4fc-a6d5c2d66076> [<https://perma.cc/L8TJ-HDZT>].

70. M2, FRED, <https://fred.stlouisfed.org/series/WM2NS> [<https://perma.cc/6XRZ-22V2>] (showing that the M2 money supply in the U.S. increased from \$15.45 trillion on December 30, 2019, to \$21.74 trillion on December 27, 2021).

71. EDWARD YARDENI & DEBBIE JOHNSON, GLOBAL ECONOMIC BRIEFING: GLOBAL MONEY AGGREGATES 3 fig.2, 7–9 figs.9–13 (2023), <https://www.yardeni.com/pub/gms.pdf> [<https://perma.cc/7Y3C-YA26>].

The fiscal stimulus, market stabilization, and monetary easing policies of governments and central banks encouraged businesses, financial institutions, and households to make vast amounts of new investments during 2020 and 2021. The ultra-low interest rate policies of central banks discouraged investors from buying safer, lower-yielding assets and spurred investors to purchase more risky, higher-yielding assets like technology stocks, high-yield (junk) bonds, leveraged corporate loans, residential and commercial real estate, and crypto-assets.⁷² Trading in crypto-assets by retail and institutional investors increased dramatically during the crypto boom, and prices for Bitcoin and other cryptocurrencies rose much faster than prices for other risky assets.⁷³

Crypto firms amplified the crypto boom with deceptive, high-powered marketing campaigns that targeted unsophisticated retail investors. Advertisements by crypto firms featured endorsements by prominent actors, athletes, and other celebrities and promised that crypto-assets would be safer, more rewarding, and more inclusive than traditional financial products.⁷⁴ For example, FTX “cultivat[ed] its brand” by hiring Stephen

72. See, e.g., Martin Arnold, *ECB Warns of ‘Exuberance’ in Housing, Junk Bonds and Crypto Assets*, FIN. TIMES (Nov. 17, 2021), <https://www.ft.com/content/f540be9b-24a9-4f0e-a3bb-ce0846388b43> [https://perma.cc/2XU2-6JVT]; Julie Pinkerton, *The History of Bitcoin, the First Cryptocurrency*, U.S. NEWS (Feb. 27, 2023), <https://money.usnews.com/investing/articles/the-history-of-bitcoin> [https://perma.cc/AC9S-78JS]; Alex Hern & Dan Milmo, *Crypto Crisis: How Digital Currencies Went from Boom to Collapse*, GUARDIAN (June 29, 2022, 11:41 AM), <https://www.theguardian.com/technology/2022/jun/29/crypto-crisis-digital-currencies-boom-collapse-bitcoin-terra> [https://perma.cc/3E3N-HHW7]; Greg Ip, *The Great Cash Splash*, WALL ST. J., May 8, 2021, at B1; CHRISTOPHER LEONARD, *THE LORDS OF EASY MONEY: HOW THE FEDERAL RESERVE BROKE THE AMERICAN ECONOMY* 176–94, 211–16, 258–59, 303–04 (2022); MENAND, *supra* note 66, at 59–66; Amrit Ramkumar, *Investors Bet on ‘Everything Rally,’* WALL ST. J., Jan. 4, 2021, at B1; Robin Wigglesworth, Katie Martin & George Steer, *The Fomo Rally: ‘Fear of Missing Out’ Helps Fuel Soaring Markets*, FIN. TIMES (Nov. 12, 2021), <https://www.ft.com/content/637b2a59-f64d-46b6-a8a8-0072e3a936d2> [https://perma.cc/1632-C3QX]; Wilmarth, *Pandemic Crisis*, *supra* note 63, at 3, 5–6, 13–15; see also Jeremy Bertomeu, Xiumin Martin & Sheryl Zhang, *Uncle Sam’s Stimulus and Crypto Boom* (Dec. 2022) (unpublished manuscript), <https://ssrn.com/abstract=4320431> [https://perma.cc/HG3K-MER5] (finding that the federal government’s stimulus loans to small businesses during the COVID-19 pandemic created higher demand for crypto-assets and increased trading in those assets).

73. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 9–10, 19–21, 28; Hern & Milmo, *supra* note 72; Steve Johnson, *Bitcoin Securities Trading Surges as Investors Seek Crypto Exposure*, FIN. TIMES (Jan. 15, 2021), <https://www.ft.com/content/fb8ac343-6574-4aa0-8f47-c2c9e9d57541> [https://perma.cc/8P96-2HP7]; Sirin Kale, *I Put My Life Savings into Crypto: How a Generation of Amateur Investors Got Hooked on High-Risk Trading*, GUARDIAN (June 19, 2021, 2:00 AM), <https://www.theguardian.com/lifeandstyle/2021/jun/19/life-savings-in-crypto-generation-of-amateurs-hooked-on-high-risk-trading> [https://perma.cc/3CF8-KX2Y]; Eva Szalay, *Crypto’s Evolution Adds New Risks to Potential Rewards*, FIN. TIMES (May 6, 2022), <https://www.ft.com/content/85b492b3-d333-4738-9ff3-bf05ef2286f6> [https://perma.cc/8ZVV-XVCV].

74. TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 2–3, 29–33, 41–50; Wilmarth, Treasury Comment Letter, *supra* note 21, at 5 & n.20; see also Nikou Asgari, *Nightmare’: Collapse of Leading Crypto Lender Traps Investors*, FIN. TIMES (Jan. 20, 2023), <https://www.ft.com/content/64648e10-cc09-4304-a274-87b66d37d3bc> [https://perma.cc/5M98-T4Y2] (reporting that Gemini led customers to believe that its “regulated” crypto lending program was similar to a “high-

Curry, Tom Brady, Gisele Bündchen, and Larry David as “brand ambassadors.”⁷⁵

In February 2022, Coinbase, FTX, and other crypto firms paid millions of dollars to advertise their crypto products during Super Bowl LVI, a game watched by ninety-six million people. Super Bowl LVI became known as the “Crypto Bowl” because the game’s broadcast included numerous ads by crypto firms urging retail investors to be “bold” and buy crypto-assets.⁷⁶ The crypto industry’s advertising campaign during the “Crypto Bowl” bore a disturbing resemblance to the mass marketing of high-risk “dotcom” stocks during Super Bowl XXXIV in 2000. Super Bowl XXXIV was called the “Dot Com Bowl” after more than a dozen technology firms purchased advertisements that touted their speculative stocks during the game.⁷⁷ “Several of those firms subsequently failed during the stock market’s ‘dotcom crash’ that began in March 2000.”⁷⁸

Many retail investors in the United States and other countries purchased crypto-assets because of their “fear of missing out” on the outsized price gains reported by Bitcoin, Ethereum, and other cryptocurrencies during the crypto boom.⁷⁹ Crypto trading appealed strongly to men (especially younger

yield savings account”); Matthew Goldstein, *‘It Just Angers Me.’ Crypto Crisis Drains Small Investors’ Savings*, N.Y. TIMES, Dec. 6, 2022, at A1 (“BlockFi had marketed [its crypto lending] account as risk free, yielding 6.5 percent interest . . .”); Alexander Osipovich & Caitlin Ostroff, *TerraUSD Crash Left Trail of Broken Dreams*, WALL ST. J., May 28, 2022, at A1 (reporting that the TerraUSD stablecoin “was pitched as a harbor from volatility” and offered investors “the opportunity to make money in Anchor Protocol, . . . [which] offered annual yields of nearly 20% on deposits of the coin”); Kadhim Shubber & Joshua Oliver, *Inside Celsius: How One of Crypto’s Biggest Lenders Ground to a Halt*, FIN. TIMES (July 13, 2022), <https://www.ft.com/content/4fa06516-119b-4722-946b-944e38b02f45> [<https://perma.cc/6TQT-Y6CR>] (reporting that Celsius CEO Alex Mashinsky “claimed to be delivering financial freedom to his [investor] community” and publicly stated, “[w]e are actually safer than most banks”).

75. Goldstein, *supra* note 74; see also Corinne Ramey, James Fanelli & Imani Moise, *Celebrity Crypto Endorsers Face Suits*, WALL ST. J., Jan. 31, 2023, at B1 (describing lawsuits filed by crypto investors against celebrities who endorsed crypto firms and their products, and reporting that “[t]he use of celebrity promoters heated up in 2021 during the massive bull run in crypto”).

76. Wilmarth, Treasury Comment Letter, *supra* note 21, at 5–6; see also Ramey et al., *supra* note 75 (“[In 2022], celebrity crypto ads filled prominent slots in the Super Bowl, the largest marketing event of the year.”).

77. Wilmarth, Treasury Comment Letter, *supra* note 21, at 6.

78. *Id.*; see also Joseph Pisani, *Crypto Firms Pass on Super Bowl*, WALL ST. J., Feb. 11, 2023, at B10 (discussing the similarities between the “Crypto Bowl” of 2022 and the “Dot Com Super Bowl” of 2000, and reporting that crypto firms did not purchase any advertisements for Super Bowl LVII in 2023, due to “turmoil” in the crypto industry).

79. Wigglesworth et al., *supra* note 72; see also Paul Delfabbro, Daniel L. King & Jennifer Williams, *The Psychology of Cryptocurrency Trading: Risk and Protective Factors*, 10 J. BEHAV. ADDICTIONS 201, 204 (2021) (“One of the strongest psychological factors that appears to influence crypto-trading is the fear of missing out (FOMO).”); Hannah M. Liu, *Why Do People Invest in Initial Coin Offerings (ICOs)?* (May 2019) (B.A. Thesis, University of Pennsylvania), https://repository.upenn.edu/joseph_wharton_scholars/70 [<https://perma.cc/K3CF-4SXN>] (reporting results of a study finding that individuals were motivated to invest in initial coin offerings by

men) and attracted large numbers of investors from minority communities and low- and moderate-income households.⁸⁰ Crypto firms assured Black investors that cryptocurrencies would provide an “antidote to racial inequality” by offering them an easy way to “bypass [the] traditional financial system” and build wealth quickly.⁸¹

Retail investors exhibited “herd-like behavior” by expanding their trading in crypto-assets during periods when Bitcoin and other cryptocurrencies reported large price increases.⁸² Most retail investors in

^{80.} “overconfidence as well as the herd behavior & fear of missing out bias”); VISA, THE CRYPTO PHENOMENON: CONSUMER ATTITUDES & USAGE 6, 16 (2021), <https://usa.visa.com/content/dam/VCOM/regiona/na/us/Solutions/documents/the-crypto-phenomenon-technical-paper.pdf> [<https://perma.cc/P3WB-KWJB>] (explaining that a study of crypto owners in eight developed and emerging economies showed that 28% of crypto owners had a “fear of missing out on cryptocurrency’s momentum”).

^{81.} Auer et al., *Crypto Trading*, *supra* note 8, at 2–14, 19–20 (finding that (i) two-thirds of individual investors in crypto assets in 95 countries were men; (ii) 40% of those investors were men younger than 35; and (iii) significant increases in Bitcoin’s price stimulated greater usage of crypto trading apps by individuals); Chris Wheat & George Eckerd, *The Dynamics and Demographics of U.S. Household Crypto-Asset Use*, JPMORGAN CHASE & CO. (Dec. 2022), <https://www.jpmorganchase.com/institute/research/financial-markets/dynamics-demographics-us-household-crypto-asset-cryptocurrency-use> [<https://perma.cc/R7UB-F7MZ>] (“[C]ompared with investors in traditional investment accounts, the median crypto user is more likely to come from lower rungs of the income ladder and is more likely to be young and male.”); VISA, *supra* note 79, at 13 (“Almost two in three consumers who transact with cryptocurrency are men . . . [N]on-white Americans account for 44% of those who own cryptocurrency . . .”); see also Paul Krugman, *How Crypto Became the New Subprime*, N.Y. TIMES (Jan. 27, 2022), <https://www.nytimes.com/2022/01/27/opinion/cryptocurrency-subprime-vulnerable.html> [<https://perma.cc/H5EV-MW45>] (“According to a survey by the research organization NORC, 44 percent of crypto investors are nonwhite, and 55 percent don’t have a college degree. This matches up with anecdotal evidence that crypto investing has become remarkably popular among minority groups and the working class.”); Rob Lenihan, *Is Crypto the New Subprime? Crash Hits Mainstream Investors Hard*, THESTREET (Jan. 30, 2022, 7:12 AM), <https://www.thestreet.com/investing/cryptocurrency/is-crypto-the-new-subprime-crash-hits-mainstream-investorshard> [<https://perma.cc/29LZ-CGRL>] (discussing survey results showing that “[t]wo-fifths of crypto traders are not white,” while “the average cryptocurrency trader is under 40 and does not have a college degree . . . and over one-third have household incomes under \$60,000 per year”); Michelle Faverio & Navid Massarat, *46% of Americans Who Have Invested in Cryptocurrency Say It’s Done Worse than Expected*, PEW RSCH. CTR. (Aug. 23, 2022), <https://www.pewresearch.org/fact-tank/2022/08/23/46-of-americans-who-have-invested-in-cryptocurrency-say-its-done-worse-than-expected/> [<https://perma.cc/EZ4A-EL68>] (“About one-in-five Black, Hispanic or Asian Americans say they have ever invested in, traded or used a cryptocurrency, compared with 13% of White Americans . . .”); Lynn Parramore, *How the Crypto Hustle Carries on America’s Shameful History of Racial Inequality*, INST. FOR NEW ECON. THINKING (Jan. 24, 2023), <https://www.ineteconomics.org/perspectives/blog/how-the-crypto-hustle-carries-on-americas-shameful-history-of-racial-inequality> [<https://perma.cc/Y4YN-MHSB>] (citing a Charles Schwab survey showing that “25% of Black investors owned cryptocurrency [in 2022], compared with 15% of white investors”).

^{82.} Parramore, *supra* note 80; see also Taylor Nicole Rogers, *Crypto Collapse Reverberates Widely Among Black American Investors*, FIN. TIMES (July 5, 2022), <https://www.ft.com/content/47d338e2-3d3c-40ce-8a09-abfa25c16a7f> [<https://perma.cc/NY2N-DQ5Q>] (reporting that many Black investors bought cryptocurrencies in response to “celebrity endorsements, sponsorships, and advertising” that emphasized the “promise of cryptocurrencies as a wealth builder”).

^{82.} Auer et al., *Crypto Trading*, *supra* note 8, at 2–14, 19–20 (finding that significant increases in Bitcoin’s price stimulated higher usage of crypto trading apps by individuals); Wheat & Eckerd, *supra*

crypto-assets suffered large losses during the crypto crash, and well-informed insiders often cashed out their crypto investments before retail investors did.⁸³ Many Black investors suffered particularly severe losses because their crypto investments represented a larger portion of their financial assets.⁸⁴

2. Scandalous Failures of Leading Crypto Firms Aggravated the Crypto Crash.

During the fourth quarter of 2021 and continuing through 2022, rising inflation rates and growing sovereign debt burdens caused many governments to reduce or terminate their pandemic stimulus programs. In addition, most central banks tightened their monetary policies by hiking interest rates and shrinking their asset purchase programs.⁸⁵ The shift by most countries toward more restrained fiscal and monetary policies sharply reduced the growth of monetary aggregates in the United States and other

note 80 (discussing the “herd-like behavior” of U.S. retail investors, who “transferred money into crypto accounts when those assets were trading near their highest levels”); *see also* FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 27 (“[C]rypto-asset prices appear to be driven in large part by sentiment and future expectations [of additional price increases.”]).

83. Auer et al., *Crypto Trading*, *supra* note 8, at 3, 20 (estimating that about three-quarters of individuals who invested in crypto-assets in ninety-five countries had lost money by November 2022); Giulio Cornelli, Sebastian Doerr, Jon Frost & Leonardo Gambacorta, *Crypto Shocks and Retail Losses*, 69 BIS BULL. 1, 2–3, (2023), <https://www.bis.org/publ/bisbull69.pdf> [<https://perma.cc/JZ2J-ZHNW>] (“[L]arger investors probably cashed out at the expense of smaller holders.”); Wheat & Eckerd, *supra* note 80 (“The majority of U.S. households [investing in crypto-assets] were likely facing significant losses . . . in late-2022.”); *see also* Rachel Louise Ensign & Angel Au-Yeung, *Many Investors Missed Risks Before ‘Crypto Banks’ Crash*, WALL ST. J., July 25, 2022, at B1 (describing the plight of individuals who suffered significant losses after investing in crypto-assets); Goldstein, *supra* note 74 (same); Osipovich & Ostroff, *supra* note 74 (same); MacKenzie Sigalos, *Homeless, Suicidal, Down to Last \$1,000: Celsius Investors Beg Bankruptcy Judge for Help*, CNBC: CRYPTO WORLD (Aug. 3, 2022, 5:27 AM), <https://www.cnbc.com/2022/08/02/celsius-investors-owed-4point7-billion-beg-judge-to-recover-life-savings.html> [<https://perma.cc/7JFV-SM29>] (same). For examples of insiders who received large payments from crypto firms before their firms failed, see Suvashree Ghosh, *FTX’s Administrators Say Sam Bankman-Fried Got \$2.2 Billion Mainly from Alameda Research*, BLOOMBERG (Mar. 15, 2023, 11:07 PM), <https://www.bloomberg.com/news/articles/2023-03-16/ftx-administrators-say-bankman-fried-got-2-2-billion-mainly-from-alameda?leadSource=uverify%20wall> [<https://perma.cc/H8F2-N8KS>] (reporting that Sam Bankman-Fried received \$2.2 billion in payments from FTX and its affiliates, while five of his top lieutenants received \$950 million of such payments); *infra* note 115 and accompanying text (explaining that Celsius bought almost \$80 million of digital tokens from the company’s co-founders before Celsius failed); *infra* note 97 and accompanying text (discussing Do Kwon’s and Terraform’s alleged withdrawal of 10,000 bitcoins before TerraUSD and Luna collapsed in May 2022).

84. Parramore, *supra* note 80; Rogers, *supra* note 81.

85. IMF, *Navigating the High Inflation Environment*, Global Financial Stability Report 1–21 (Oct. 2022) [hereinafter 2022 IMF-GFSR], <https://www.imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022> [<https://perma.cc/K3JP-4LHY>]; IMF, *Countering the Cost-of-Living Crisis*, World Economic Outlook 1–6, 13–25, 61 (Oct. 2022), <https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlook-october-2022> [<https://perma.cc/XQN9-VFK4>].

leading economies during 2022.⁸⁶ As financial conditions tightened, price bubbles deflated for many risky assets, including technology stocks, commercial and residential real estate, and crypto-assets.⁸⁷ The total market capitalization of all cryptocurrencies and the values of the two largest coins—Bitcoin and Ethereum—each plunged by more than 70% between November 2021 and December 2022.⁸⁸

As shown in the following analysis, the crypto crash accelerated as failures of leading crypto firms revealed pervasive misconduct by insiders, including conflicts of interest, fraud, market manipulation, misappropriation of customer funds, and other forms of self-dealing. The scandalous collapses of prominent crypto firms inflicted devastating losses on investors and undermined public confidence in crypto-assets and crypto markets.⁸⁹

In May 2022, the TerraUSD algorithmic stablecoin (Terra) collapsed along with Luna, Terra’s affiliated “governance token.” Prior to its failure, Terra was the largest algorithmic stablecoin and the third-largest

86. Ryan McMaken, *Money Supply Growth in October Fell to 39-Month Low: A Recession Is Now Almost Guaranteed – Analysis*, EURASIA REV. (Dec. 1, 2022), <https://www.eurasiareview.com/01122022-money-supply-growth-in-october-fell-to-39-month-low-a-recession-is-now-almost-guaranteed-analysis/> [https://perma.cc/M42P-JW57]; YARDENI & JOHNSON, *supra* note 71.

87. 2022 IMF-GFSR, *supra* note 85, at 1–7, 10–11, 26–30; Gunjan Banerji, *Tech’s Dominant Decade in Market Fades*, WALL ST. J., June 9, 2022, at A1; Joshua Chaffin, *New York’s ‘Zombie’ Office Towers Teeter as Interest Rates Rise*, FIN. TIMES (Dec. 3, 2022), <https://www.ft.com/content/a970a7f3-e493-43fd-ac11-afe40a73fbb7> [https://perma.cc/H635-6UB6]; George Hammond, *Commercial Property Values Fall as Spooked Lenders Retreat*, FIN. TIMES (Nov. 23, 2022), <https://www.ft.com/content/e0baea21-158d-402f-8ddc-70a7216f01c0> [https://perma.cc/LVG5-8F3U]; Hern & Milmo, *supra* note 72; Katie Martin & Harriet Agnew, *A Year of Pain: Investors Struggle in a New Era of Higher Rates*, FIN. TIMES (Nov. 30, 2022), <https://www.ft.com/content/c93f3660-821f-458b-ae0f-23ac05b8f03f> [https://perma.cc/U4UC-RFHK]; Christopher Mims, *Pain in Tech Is Beginning to Hit the Rest of Us*, WALL ST. J., Mar. 18, 2023, at B6; *House Prices: The Coming Crunch*, ECONOMIST, Nov. 26, 2022, at 69–70; Carol Ryan, *Turmoil Adds a Fresh Crack in Property’s Foundations*, WALL ST. J., Mar. 17, 2023, at B12; Paul Vigna, *Expected Fed Tightening Weighs on Crypto Market*, WALL ST. J., Jan. 20, 2022, at A1.

88. See *supra* notes 6–7, 22 and accompanying text.

89. See, e.g., Nikou Asgari, *Investors Withdraw Record Levels of Coins from Crypto Exchanges*, FIN. TIMES (Dec. 11, 2022), <https://www.ft.com/content/168f2074-716c-48ef-8564-cdf740d23e4b> [https://perma.cc/LMM5-9VK5]; Stephen Cecchetti & Kim Schoenholtz, *Let Crypto Burn*, FIN. TIMES (Nov. 17, 2022), <https://www.ft.com/content/ac058ede-80cb-4aa6-8394-941443eec7e3> [https://perma.cc/9DYT-9XPM]; Scott Chipolina, *FTX Charges Leave Industry in Tatters*, FIN. TIMES (Dec. 16, 2022), <https://www.ft.com/content/9cf4c881-252b-4296-b132-c84706fb6d46> [https://perma.cc/85DK-K6GV]; Editorial, *Is This the End of Crypto?*, ECONOMIST (Nov. 17, 2022), <https://www.economist.com/leaders/2022/11/17/is-this-the-end-of-crypto> [https://perma.cc/59PC-LT3B]; David Z. Morris, *The Four Horsemen of the Cryptocalypse*, COINDESK (Dec. 29, 2022, 10:54 AM), <https://www.coindesk.com/consensus-magazine/2022/12/05/do-kwon-su-zhu-alex-mashinsky-stephen-ehrlich-most-influential-2022/> [https://perma.cc/G29X-AV6C]; Hyun Song Shin, *The Great Crypto Crisis Is upon Us*, FIN. TIMES (Dec. 16, 2022), <https://www.ft.com/content/76234c49-cb11-4c2a-9a80-49da4f0ad7dd> [https://perma.cc/KS7W-YH5E].

stablecoin.⁹⁰ Terraform Labs, the issuer of Terra and Luna, told investors that Terra would maintain a stable value of \$1 per coin through an algorithmic trading relationship with Luna.⁹¹ Terraform established the Luna Foundation, which purportedly held adequate reserves of crypto-assets to support the trading relationship between Terra and Luna.⁹² Terraform also created the Anchor Protocol, which offered to pay interest rates up to 20% to holders who loaned their Terra coins to Anchor.⁹³ By May 2022, Terraform had issued more than \$18 billion of Terra coins (with about 70% of those coins loaned by holders through the Anchor Protocol), while Luna coins had a declared market value of about \$40 billion.⁹⁴

The values of Terra and Luna plummeted after press reports raised troubling questions about the viability of Terraform's algorithmic trading strategy and the adequacy of Luna Foundation's reserves.⁹⁵ The collapse of Terra and Luna shocked cryptocurrency markets and caused the price of Tether, the largest stablecoin, to fall temporarily below its \$1 peg.⁹⁶ Prior to the failure of Terra and Luna, Terraform and its CEO, Do Kwon, allegedly transferred 10,000 Bitcoins to an off-exchange digital wallet they controlled.⁹⁷ In March 2023, Kwon was arrested in Montenegro and indicted

90. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 47 fig.11, 48; Muyao Shen, *How \$60 Billion in Terra Coins Went Up in Algorithmic Smoke*, BLOOMBERG (May 20, 2022), <https://www.bloomberg.com/graphics/2022-crypto-luna-terra-stablecoin-explainer/> [https://perma.cc/2C6P-ZXCZ].

91. Complaint ¶¶ 31–34, SEC v. Terraform Labs PTE Ltd., No. 1:23-cv-1346 (S.D.N.Y. Feb. 16, 2023) [hereinafter SEC Terraform Complaint], <https://www.sec.gov/litigation/complaints/2023/comp-pr2023-32.pdf> [https://perma.cc/TNE9-CS6Z]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 48.

92. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 48–49; SEC Terraform Complaint, *supra* note 91, ¶ 41.

93. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 49; SEC Terraform Complaint, *supra* note 91, ¶¶ 35, 69.

94. See, e.g., FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 48–49, 50 fig.C-2; Liam J. Kelly, *We Need to Talk About Terra's Anchor*, DECRYPT (Apr. 23, 2022), <https://decrypt.co/98482/we-need-to-talk-about-terras-anchor> [https://perma.cc/Q55Y-63VT]; Irina Leonova, Presentation Accompanying Digital Assets: 360 Degree View, Address at 2022 FDIC Accounting and Auditing Conference, 25 (Oct. 12, 2022), <https://www.fdic.gov/conference/presentations/digital-assets-360-degree-view.pdf> [https://perma.cc/K4W9-EX8R]; Morris, *supra* note 89; Osipovich & Ostroff, *supra* note 74; SEC Terraform Complaint, *supra* note 91, ¶¶ 35–36, 69, 75; Shen, *supra* note 90; Wilmarth, Treasury Comment Letter, *supra* note 21, at 3–4.

95. See, e.g., FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 49–50; Kelly, *supra* note 94; David Z. Morris, Opinion, ‘*Built to Fail? Why TerraUSD’s Growth Is Giving Finance Experts Nightmares*’, COINDESK (Apr. 22, 2022, 9:58 AM), <https://www.coindesk.com/layer2/2022/04/22/built-to-fail-why-terrausds-growth-is-giving-finance-experts-nightmares/> [https://perma.cc/42HM-34RP].

96. FSOC DIGITAL ASSET REPORT, *supra* note 1, at 47–54; Morris, *supra* note 89; Shen, *supra* note 90; Wilmarth, Treasury Comment Letter, *supra* note 21, at 4–5.

97. Stefanie Palma, *SEC Sues Stablecoin Operator Terraform and Chief Do Kwon*, FIN. TIMES (Feb. 16, 2023), <https://www.ft.com/content/eec3993a-5613-482f-a8a4-3d640c7c9e20> [https://perma.cc/52GJ-YL5P] (describing the SEC's allegations that Kwon and Terraform misappropriated 10,000 Bitcoins and, since May 2022, “have been periodically transferring bitcoin from [their digital] wallet to a Swiss bank” and withdrawing more than \$100 million of cash from that bank); SEC Terraform Complaint, *supra* note 91, ¶ 172 (presenting same allegations).

in the United States for crimes that included securities, commodities, and wire fraud.⁹⁸

The demise of Terra and Luna had a devastating impact on crypto investors, exchanges, and lending platforms.⁹⁹ Three Arrows Capital (3AC), a crypto hedge fund, was the first major casualty of the contagion that followed Terra's and Luna's collapse. 3AC held substantial investments in Luna, Greyscale Bitcoin Trust (GBTC), and other crypto ventures.¹⁰⁰ 3AC also borrowed large amounts of cash and cryptocurrencies from investors, to whom it paid interest rates of 10% or more.¹⁰¹ The failures of Terra and Luna and steep drops in the values of GBTC and 3AC's other crypto investments forced 3AC into bankruptcy on July 1, 2022.¹⁰² 3AC's bankruptcy filing revealed that 3AC had commingled its funds with customer funds and used customer funds to pay creditors before it collapsed.¹⁰³

3AC's demise led to the failures of several crypto trading and lending firms, including Voyager Digital and Celsius. Voyager and Celsius filed for bankruptcy after the values of their crypto investments plummeted and 3AC could not repay a large loan it received from Voyager.¹⁰⁴

Like Terra, Celsius and Voyager offered to pay interest rates as high as 18% on loans of cryptocurrencies made by investors.¹⁰⁵ Celsius agreed to pay investors its top interest rate if they accepted their interest payments in CEL, a token created by Celsius.¹⁰⁶ Celsius was the biggest owner of CEL

98. Scott Chipolina, Joe Miller & Marton Dunai, *US Charges Crypto Fugitive Do Kwon After Montenegro Arrest*, FIN. TIMES (Mar. 23, 2023), <https://www.ft.com/content/c07bd4c4-f555-49a9-badd-7cf03b5f6e6a> [https://perma.cc/X92E-KZNR] (noting that Kwon was also a fugitive from criminal charges in South Korea); Alexander Osipovich, Bojan Pancevski & James Fanelli, *U.S. Indicts Creator of Terra Stablecoin on Fraud Charges*, WALL ST. J., Mar. 24, 2023, at A1 (same).

99. FSOC DIGITAL ASSET REPORT, *supra* note 1, at 39–40, 52–54; Morris, *supra* note 89; Shen, *supra* note 90; Wilmarth Treasury Comment Letter, *supra* note 21, at 4–5.

100. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 38–40; Leonova, *supra* note 94, at 28; Morris, *supra* note 89.

101. Jen Wieczner, *The Crypto Geniuses Who Vaporized a Trillion Dollars: Everyone Trusted the Two Guys at Three Arrows Capital. They Knew What They Were Doing – Right?*, N.Y. MAG. (Aug. 15, 2022), <https://nymag.com/intelligencer/article/three-arrows-capital-kyle-davies-su-zhu-crash.html> [https://perma.cc/DWT9-YDX4].

102. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 38–40; Morris, *supra* note 89; Wieczner, *supra* note 101.

103. David Z. Morris, *Satoshi Wept: How Crypto Replayed the 2008 Financial Crisis*, COINDESK (July 14, 2022, 11:10 AM), <https://www.coindesk.com/layer2/2022/07/12/satoshi-wept-how-crypto-replayed-the-2008-financial-crisis/> [https://perma.cc/44ZF-MRQT]; Wieczner, *supra* note 101.

104. Joshua Oliver, *Voyager Digital Files for Bankruptcy Protection as Crypto Crisis Deepens*, FIN. TIMES (July 6, 2022), <https://www.ft.com/content/0b5b68d9-85f1-47ce-a9f7-34252e4fe2ce> [https://perma.cc/D4PW-F2AB]; Morris, *supra* note 89; Morris, *supra* note 103; Shubber & Oliver, *supra* note 74.

105. Shubber & Oliver, *supra* note 74; Kadhim Shubber, *Voyager Digital Shares Crash After Warning of Three Arrows Crypto Loss*, FIN. TIMES (June 22, 2022), <https://www.ft.com/content/d75801c9-b9dd-4f90-b012-6948cca680d0> [https://perma.cc/NEA8-KUAH].

106. Shubber & Oliver, *supra* note 74.

tokens, and Celsius purchased CEL tokens on the market to boost their price.¹⁰⁷ Like 3AC, Voyager and Celsius commingled customer funds with their own funds and used customer funds to pay their operating expenses and debts.¹⁰⁸ Both firms falsely represented that the funds they held for customers would be as safe as deposits in federally-insured banks.¹⁰⁹ According to claims filed by individual investors in Celsius's bankruptcy proceeding, "many investors were duped into believing that certain crypto services were safe and reliable places to earn a return."¹¹⁰

After Celsius filed for bankruptcy, the Vermont Department of Financial Regulation alleged that (i) Celsius made "false and misleading claims to investors" about Celsius's financial strength and compliance with securities laws¹¹¹ and (ii) Celsius "increased and propped up the market price of CEL, thereby artificially inflating" the value of CEL reported on Celsius's financial statements.¹¹² In January 2023, New York Attorney General Letitia James filed civil fraud charges against former Celsius CEO Alex Mashinsky, alleging that he "promised to lead investors to financial freedom but led them down a path of financial ruin."¹¹³

107. Bryce Elder, *Crypto Lender Celsius Looked a Lot Like a Ponzi, Says State Regulator*, FIN. TIMES (Sept. 7, 2022), <https://www.ft.com/content/7380ac24-76b1-4a3e-a2df-688ff4b6d0b1> [<https://perma.cc/HCL3-VBNE>]; Joshua Oliver & Kadhim Shubber, *Crypto Lender Celsius Misused Customer Funds for Years, Examiner Finds*, FIN. TIMES (Jan. 31, 2023), <https://www.ft.com/content/0f2c97de-9c71-4e0c-8848-b5d25eb96599> [<https://perma.cc/8YX6-VHG9>]; Shubber & Oliver, *supra* note 74.

108. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 35–36, 38, 47–48; Leonova, *supra* note 94, at 26–27; Morris, *supra* note 103; Oliver & Shubber, *supra* note 107; Shubber & Oliver, *supra* note 74.

109. Joint Letter from Fed. Deposit Ins. Corp. & Bd. of Governors of the Fed. Rsr. Sys. to Voyager Digital, LLC (July 28, 2022), <https://www.fdic.gov/news/press-releases/2022/pr22056a.pdf> [<https://perma.cc/WHD3-3WM2>]; Sigalos, *supra* note 83 (discussing Celsius's marketing materials, which stated that customers would receive a "high yield, low risk savings account," as well as public assurances given by Celsius CEO Alex Mashinsky, who said that Celsius was "safer than banks"); Claire Williams, *Fed. FDIC Order Voyager to Take Down 'False and Misleading' Claims of Deposit Insurance*, AM. BANKER (July 28, 2022, 6:05 PM), <https://www.americanbanker.com/news/fed-fdic-order-voyager-to-take-down-false-and-misleading-claims-of-deposit-insurance> [<https://perma.cc/7V5M-FGEP>]; Wilmarth, Treasury Comment Letter, *supra* note 21, at 5 & n.19.

110. *Crypto Crash: Why the FTX Bubble Burst and the Harm to Consumers: Hearing Before the S. Comm. on Banking, Hous. & Urb. Affs.*, 117th Cong. 14 (2022) (statement of Hilary J. Allen, Professor of Law, American University Washington College of Law) [hereinafter Allen Testimony], <https://www.banking.senate.gov/imo/media/doc/Allen%20Testimony%202012-14-22.pdf> [<https://perma.cc/FLM2-T7BM>].

111. Nikhil De, *Celsius Resembled Ponzi Scheme at Times, Vermont Regulator Says*, COINDESK (Sept. 7, 2022, 3:50 PM), <https://www.coindesk.com/policy/2022/09/07/celsius-misled-investors-about-financial-health-vermont-regulator-alleges/> [<https://perma.cc/5FYJ-JWSK>] (quoting bankruptcy court filing by the Vermont Department of Financial Regulation on September 7, 2022).

112. *Id.* (quoting bankruptcy court filing by the Vermont Department of Financial Regulation on September 7, 2022); Elder, *supra* note 107 (same).

113. Joe Miller, Scott Chipolina & Kadhim Shubber, *Celsius Founder Mashinsky Sued for Fraud by New York Attorney General*, FIN. TIMES (Jan. 5, 2023), <https://www.ft.com/content/73f60c89-a876-46c0-a2fb-ce7f0b605b19> [<https://perma.cc/57XH-MDYQ>]; Corinne Ramey & James Fanelli, *Celsius Co-Founder Is Sued by New York*, WALL ST. J., Jan. 6, 2023, at B10; see also Reiners Testimony, *supra*

Celsius's court-appointed bankruptcy examiner subsequently reported that Celsius used funds from investors and customers to purchase over \$550 million of CEL tokens on the market. Those purchases "inflated Celsius's balance sheet by more than \$1.5bn at its peak because the company held CEL on the balance sheet at market prices."¹¹⁴ In addition, Celsius bought almost \$70 million of CEL tokens held by Mashinsky, even though company insiders acknowledged that the tokens were "very Ponzi like" and "worthless."¹¹⁵

The most spectacular crypto flameout occurred in November 2022, when FTX collapsed along with its affiliated hedge fund, Alameda Research. At the time of its failure, FTX was the world's fifth-largest cryptocurrency exchange based on trading volume.¹¹⁶ More than a third of Alameda's \$14.6 billion of assets consisted of FTT tokens, which were created and issued by FTX.¹¹⁷ Alameda also held substantial amounts of Serum and Solana tokens, which were created or promoted by FTX and Alameda and their founder, Sam Bankman-Fried.¹¹⁸ As Hilary Allen pointed out, "there were no constraints" on FTX's ability to create "unlimited supplies" of FTT tokens, and more than half of Alameda's net equity value was "created out of thin air by FTX or FTX-related entities."¹¹⁹

FTX and Alameda controlled almost 90% of outstanding FTT tokens, and FTX bought FTT tokens on the market to boost their reported value.¹²⁰

note 31, at 15 (stating that Celsius's collapse left "roughly 600,000 account holders unable to access their assets, collectively valued at \$4.2 billion at the time of bankruptcy").

114. Oliver & Shubber, *supra* note 107.

115. *Id.*; see also Olga Kharif, Joanna Ossinger & Emily Nicolle, *Celsius Examiner Rips into Crypto Lender in Final Report*, BLOOMBERG (Jan. 31, 2023, 5:07 AM), <https://www.bloomberg.com/news/articles/2023-01-31/celsius-examiner-rips-into-crypto-lender-in-her-final-report> [https://perma.cc/UBU5-YCU3] (describing Celsius's purchases of Mashinsky's tokens, and stating that Celsius also bought almost \$10 million of CEL tokens held by S. Daniel Leon, Celsius's co-founder).

116. *Factbox: Top Crypto Exchanges by Volume*, REUTERS (Nov. 9, 2022, 10:27 AM), <https://www.reuters.com/markets/currencies/top-crypto-exchanges-by-volume-2022-11-09/> [https://perma.cc/PDW9-WFZU].

117. Ian Allison, *Divisions in Sam Bankman-Fried's Crypto Empire Blur on His Trading Titan Alameda's Balance Sheet*, COINDESK (Nov. 9, 2022, 12:36 PM), <https://www.coindesk.com/business/2022/11/02/divisions-in-sam-bankman-frieds-crypto-empire-blur-on-his-trading-titan-alamedas-balance-sheet/> [https://perma.cc/YRU5-92AY] (stating that Alameda's assets included about \$5.8 billion of FTT tokens); Alexander Osipovich, Caitlin Ostroff, Patricia Kowsmann, Angel Au-Yeung & Matt Grossman, *FTX Fall Was Years in Making*, WALL ST. J., Nov. 19, 2022, at A1.

118. *Id.*

119. Allen Testimony, *supra* note 110, at 16; *id.* at 4; see also Allison, *supra* note 117 ("[T]he majority of the net equity in the Alameda business is actually FTX's own centrally controlled and printed-out-of-thin-air token.").

120. Complaint ¶¶ 74–79, 91–94, SEC v. Ellison, No. 22-cv-10794 (S.D.N.Y. Dec. 21, 2022) [hereinafter SEC Ellison Complaint], <https://www.sec.gov/litigation/complaints/2022/comp-pr2022-234.pdf> [https://perma.cc/FMX3-CKRG]; Yong Li Khoo, Sandra Leow, Niklas Polk & Douglas Chia, *Blockchain Analysis: The Collapse of Alameda and FTX*, NANSEN (Nov. 17, 2022), <https://www.nansen.ai/research/blockchain-analysis-the-collapse-of-alameda-and-ftx> [https://perma.cc/

FTX and Alameda provided FTT tokens as collateral for loans that both firms used to make investments and cover their operating expenses, especially after the failures of Terra, Luna, and 3AC.¹²¹ The SEC subsequently alleged that top executives of FTX and Alameda defrauded FTX's investors by (i) "purchasing large quantities [of FTT] on the open market to prop up its price" and (ii) pledging FTT tokens as collateral for secret loans that Alameda received from FTX, thereby deceiving investors about FTX's actual risk exposures.¹²²

FTX experienced a "run on the bank"¹²³ after a news story revealed Alameda's massive holdings of FTT tokens.¹²⁴ Binance—the world's largest cryptocurrency exchange and FTX's fiercest competitor—publicly announced that it would sell its FTT tokens, then valued at over \$500 million. Binance's announcement triggered a generalized run by FTX's customers, and the price of FTT tokens dropped by 80% in two days.¹²⁵ FTX could not raise enough funds to meet its customers' demands for withdrawals, and Binance refused to rescue FTX with an emergency buyout.¹²⁶ FTX and Alameda filed for bankruptcy on November 11, 2022.¹²⁷

FTX's terms of service stated that its customers' assets would be kept separate from FTX's assets and would not be loaned to or transferred by FTX.¹²⁸ In violation of those terms, FTX loaned over \$9 billion of its

7ZLE-M23F]; Robin Wigglesworth, *The Alameda-FTX Death Spiral*, FIN. TIMES (Nov. 18, 2022), <https://www.ft.com/content/7a55d057-357d-4bf6-92c4-4fc4ef7f72db> [https://perma.cc/6L55-J4U4].

121. Angus Berwick, Anirban Sen, Elizabeth Howcroft & Lawrence Delevigne, *Special Report: FTX's Bankman-Fried Begged for a Rescue Even as He Revealed Huge Holes in Firm's Books*, REUTERS (Nov. 16, 2022, 6:12 AM), <https://www.reuters.com/technology/ftxs-bankman-fried-begged-rescue-even-he-revealed-huge-holes-firms-books-2022-11-16/> [https://perma.cc/97F3-PF3B]; Osipovich et al., *supra* note 117; SEC Ellison Complaint, *supra* note 120, ¶¶ 2–6, 47–50, 69–74, 95–101.

122. Press Release, SEC, SEC Charges Caroline Ellison and Gary Wang with Defrauding Investors in Crypto Asset Trading Platform FTX (Dec. 21, 2022) [hereinafter SEC Press Release 2022–234], <https://www.sec.gov/news/press-release/2022-234> [https://perma.cc/W5DE-F2V3].

123. Tabby Kinder, *Sam Bankman-Fried Ran FTX as Personal Fiefdom, Court Hears*, FIN. TIMES (Nov. 22, 2022), <https://www.ft.com/content/470cce8e-0e5d-4fe4-8b62-08eb0749da9c> [https://perma.cc/G6F9-R9AG] (quoting James Bromley, FTX's bankruptcy counsel).

124. Berwick et al., *supra* note 121; Osipovich et al., *supra* note 117; Philip Stafford & Nikou Asgari, *'Black Box': Sam Bankman-Fried's Trading Firm Posed Big Risks to FTX*, FIN. TIMES (Nov. 11, 2022), <https://www.ft.com/content/2875e3c2-f908-46d2-a645-1c33a9b9ce8a> [https://perma.cc/WF3W-9S49].

125. Angus Berwick & Tom Wilson, *Exclusive: Behind FTX's Fall, Battling Billionaires and a Failed Bid to Save Crypto*, REUTERS (Nov. 10, 2022, 4:46 PM), <https://www.reuters.com/technology/exclusive-behind-ftxs-fall-battling-billionaires FAILED-BID-SAVE-CRYPTO-2022-11-10/> [https://perma.cc/7ECX-Z9RV]; Berwick et al., *supra* note 121; Stafford & Asgari, *supra* note 124.

126. See, e.g., Berwick & Wilson, *supra* note 125; Berwick et al., *supra* note 121; Kinder, *supra* note 123; Osipovich et al., *supra* note 117.

127. Kinder, *supra* note 123.

128. SEC Ellison Complaint, *supra* note 120, ¶¶ 52–58 (quoting FTX's terms of service in ¶¶ 52–53); Sandali Handagama, *FTX Violated Its Own Terms of Service and Misused User Funds, Lawyers Say*, COINDESK (Nov. 11, 2022, 1:54 AM), <https://www.coindesk.com/policy/2022/11/10/ftx-violated-its-own-terms-of-service-and-misused-user-funds-lawyers-say/> [https://perma.cc/273F-KJ9G] (discussing and quoting FTX's terms of service).

customers' funds to Alameda before both firms failed.¹²⁹ The SEC subsequently alleged that Bankman-Fried and his senior colleagues "diverted FTX customer funds to Alameda and then used those funds . . . to make undisclosed private venture investments, political contributions, and real estate purchases," and to "repay [Alameda's] third-party loan obligations."¹³⁰

In December 2022, the U.S. Department of Justice (DOJ) filed criminal charges against Sam Bankman-Fried, alleging fraud, money laundering, and campaign finance violations. The DOJ charged Bankman-Fried with misappropriating FTX's customer funds to pay for personal expenses, political contributions, and investments as well as loans that benefited FTX and Alameda. The DOJ also alleged that Bankman-Fried defrauded Alameda's lenders and FTX's equity investors by concealing FTX's misuse of its customer funds.¹³¹ Caroline Ellison (Alameda's CEO), Zixiao "Gary" Wang (FTX's former chief technology officer), and Nishad Singh (FTX's former director of engineering) subsequently pleaded guilty to similar criminal charges and agreed to cooperate with the DOJ and other federal agencies.¹³²

The SEC filed civil charges against Bankman-Fried, Ellison, Wang, and Singh for violating federal securities laws by defrauding investors who purchased FTX's equity securities and FTT tokens.¹³³ The CFTC filed civil

129. Alexander Saeedy, *FTX Says \$8.9 Billion Is Missing*, WALL ST. J., Mar. 3, 2023, at B3 (reporting that FTX "identified a deficit of \$8.9 billion in customer funds that it can't account for," and most of that "shortfall" was "attributed to Alameda, which had borrowed \$9.3 billion from [FTX's] customers' accounts"); SEC Ellison Complaint, *supra* note 120, ¶¶ 1–6, 32–44, 47–58, 95–102 (discussing FTX's loans of its customers' assets to Alameda).

130. SEC Ellison Complaint, *supra* note 120, ¶¶ 30, 48.

131. Press Release, U.S. Dep't of Just., FTX Founder Indicted for Fraud, Money Laundering, and Campaign Finance Offenses (Dec. 13, 2022), <https://www.justice.gov/opa/pr/ftx-founder-indicted-fraud-money-laundering-and-campaign-finance-offenses> [<https://perma.cc/A32H-88QM>]; see also Stefania Palma, Joshua Chaffin, Joshua Oliver & Kadhim Shubber, *Sam Bankman-Fried Charged in One of 'Biggest Financial Frauds' in US History*, FIN. TIMES (Dec. 13, 2022), <https://www.ft.com/content/b62a2e86-ee61-4c4e-8ce3-418ae216d8a7> [<https://perma.cc/8PTB-BFXT>] (discussing the DOJ's charges against Bankman-Fried); Corinne Ramey, James Fanelli & Vicky Ge Huang, *FTX Founder Is Charged with Fraud*, WALL ST. J., Dec. 14, 2022, at A1 (same). In February and March 2023, the DOJ filed additional criminal charges against Bankman-Fried for bank fraud, commodities fraud, securities fraud, and bribery of Chinese officials. James Fanelli & Corinne Ramey, *U.S. Accuses FTX Founder of Bribery Chinese Officials*, WALL ST. J., Mar. 29, 2023, at A1; Corinne Ramey & James Fanelli, *FTX Founder Bankman-Fried Faces More Criminal Charges*, WALL ST. J., Feb. 24, 2023, at A1.

132. James Fanelli, Corinne Ramey & Alexander Osipovich, *Bankman-Fried Ally Pleads Guilty*, WALL ST. J., Mar. 1, 2023, at B1; Joe Miller & Joshua Oliver, *FTX Founder Sam Bankman-Fried's Top Associates Plead Guilty to US Charges*, FIN. TIMES (Dec. 22, 2022), <https://www.ft.com/content/15669bd0-7b9f-4ca2-af19-038230b718ab> [<https://perma.cc/YZ4L-4SW8>]; Corinne Ramey & James Fanelli, *Executives Knew FTX Moves Illegal*, WALL ST. J., Dec. 24, 2022, at A1.

133. Press Release, SEC, SEC Charges Samuel Bankman-Fried with Defrauding Investors in Crypto Asset Trading Platform FTX (Dec. 13, 2022), <https://www.sec.gov/news/press-release/2022-219>

charges against the same individuals as well as FTX and Alameda for violating the Commodity Exchange Act by fraudulently selling digital asset commodities and derivatives and misappropriating customer funds.¹³⁴

The collapse of FTX and Alameda contributed to the failure of crypto lender Genesis Global Capital (Genesis) in January 2023. Beginning in 2018, Genesis borrowed crypto-assets from investors, loaned the same crypto-assets to other investors at higher interest rates, and earned profits on the spread. In February 2021, Genesis agreed to offer its crypto lending program to customers of Gemini Trust (Gemini), a New York limited-purpose trust company. Genesis and Gemini created the “Gemini Earn” program, which paid interest rates as high as 8% to Gemini’s customers who loaned their crypto-assets to Genesis.¹³⁵ In November 2022, some 340,000 Gemini customers held about \$900 million of outstanding loans to Genesis.¹³⁶

Genesis claimed to be “the world’s largest digital asset lender” and assured investors that it was “a regulated and trusted counterparty.”¹³⁷ Similarly, Gemini advertised itself as a reliable and “regulated place to buy, sell, and store crypto.”¹³⁸ Genesis suffered “hundreds of millions of dollars in losses” when 3AC failed,¹³⁹ and Genesis lost an additional \$200 million when FTX and Alameda failed.¹⁴⁰ Genesis suspended withdrawals from the Gemini Earn program in November 2022 and filed for bankruptcy in January 2023.¹⁴¹

[<https://perma.cc/MNW4-D8JN>] (summarizing the SEC’s charges against Bankman-Fried); Palma et al., *supra* note 131 (same); SEC Press Release 2022–234, *supra* note 122 (summarizing the SEC’s civil charges against Ellison and Wang); Miller & Oliver, *supra* note 132 (same); Fanelli et al., *supra* note 132 (discussing the SEC’s civil charges against Singh).

134. Press Release, Commodity Futures Trading Comm’n, CFTC Charges Sam Bankman-Fried, FTX Trading and Alameda with Fraud and Material Misrepresentations (Dec. 13, 2022), <https://www.cftc.gov/PressRoom/PressReleases/8638-22> [<https://perma.cc/PJD9-2HQ7>] (summarizing the CFTC’s charges against Bankman-Fried, FTX, and Alameda); *see also* Ramey et al., *supra* note 131 (same); Press Release, Commodity Futures Trading Comm’n, CFTC Charges Alameda CEO and Alameda and FTX Co-Founder with Fraud in Action Against Sam Bankman-Fried and His Companies (Dec. 21, 2022), <https://www.cftc.gov/PressRoom/PressReleases/8644-22> [<https://perma.cc/ES92-X45P>] (summarizing the CFTC’s charges against Ellison and Wang); Miller & Oliver, *supra* note 132 (same); Fanelli et al., *supra* note 132 (discussing the CFTC’s charges against Singh).

135. Complaint ¶¶ 1–8, 16–17, 23–39, SEC v. Genesis Glob. Cap., LLC, No. 23-cv-287 (S.D.N.Y. Jan. 12, 2023) [hereinafter SEC Genesis-Gemini Complaint]

136. *Id.* ¶¶ 7, 25, 49.

137. *Id.* ¶ 63.

138. Asgari, *supra* note 74.

139. Stephen Alpher & Danny Nelson, *Genesis’ Crypto Lending Businesses File for Bankruptcy Protection*, COINDESK (May 8, 2023, 11:06 PM), <https://www.coindesk.com/business/2023/01/20/genesis-global-files-for-bankruptcy-protection/> [<https://perma.cc/M4GA-HG9E>].

140. Stephanie Findlay, William Langley, Nikou Asgari & Kadhim Shubber, *Crypto Broker Genesis Puts Lending Unit into Chapter 11 Bankruptcy*, FIN. TIMES (Jan. 20, 2023), <https://www.ft.com/content/c040bc6c-08be-48dd-8af9-3b11b8b67c99> [<https://perma.cc/CL64-XV3E>].

141. *Id.*; Alexander Osipovich, *Crypto Woes Deepen With Genesis Demise*, WALL ST. J., Jan. 23, 2023, at B1.

The cascade of failures among leading crypto firms in 2022 and early 2023 made clear that the crypto industry was “very interconnected, and failures in one part inevitably have reverberations for the rest of the industry.”¹⁴² As shown above, those failures were accompanied by revelations of scandalous misconduct by insiders, including (i) deceiving customers and investors; (ii) creating speculative digital tokens and inflating their value through manipulative trading; (iii) offering inflated tokens as collateral for loans from customers and other creditors; (iv) misappropriating customer funds; and (v) exploiting conflicts of interest within crypto firms that performed multiple functions such as buying, selling, borrowing, lending, and clearing cryptocurrencies.¹⁴³ In addition, the “mystique” and “technological complexity” surrounding crypto firms helped insiders to “disguise what was going on behind the scenes” and avoid effective oversight by investors and regulators.¹⁴⁴

The crypto boom and crash and accompanying scandals resembled ill-fated bubbles of the past, including the fraudulent marketing and sales of risky stocks and bonds during the 1920s,¹⁴⁵ the widespread hype and deception that characterized public offerings of speculative dotcom and telecom stocks in the late 1990s,¹⁴⁶ and the recklessness and fraud that pervaded the marketing and sales of toxic subprime mortgage-backed securities and related derivatives (including credit default swaps and collateralized debt obligations) during the 2000s.¹⁴⁷ Congress responded to

142. Allen Testimony, *supra* note 110, at 6.

143. *Id.* at 3–4, 6–8, 19; *supra* notes 90–141 and accompanying text.

144. Allen Testimony, *supra* note 110, at 8.

145. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 23–28, 105–08; Todd Phillips, *The SEC’s Regulatory Role in the Digital Asset Markets*, CTR. FOR AM. PROGRESS (Oct. 4, 2021), <https://www.americanprogress.org/article/secs-regulatory-role-digital-asset-markets/> [https://perma.cc/V35Q-N48V]; ARTHUR E. WILMARTH, JR., TAMING THE MEGABANKS: WHY WE NEED A NEW GLASS-STEAGALL ACT 1–2, 31–77, 124–26, 130–32, 140–42 (2020) [hereinafter WILMARTH, TAMING THE MEGABANKS].

146. Ip, *supra* note 72; Benjamin Pimentel, *The Dot-Com Crash Has Lessons for Crypto, if Only We Can Remember Them*, PROTOCOL (July 10, 2022), <https://www.protocol.com/fintech/dot-com-bubble-crypto-crash> [https://perma.cc/T6P3-X3W8]; Richard Waters, *Pandemic Tech Bubbles Echo Those of the Dotcom Era*, FIN. TIMES (Jan. 7, 2021), <https://www.ft.com/content/20a4f647-5db3-40e6-a38c-ec4ddcb8820> [https://perma.cc/7DG4-XKTN]; WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 197–203.

147. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 23–28, 105, 108; Press Release, Sen. Sherrod Brown, Brown on FTX: Crypto Puts Consumers and Our National Security at Risk (Dec. 14, 2022), <https://www.banking.senate.gov/newsroom/majority/brown-ftx-crypto-consumers-national-security-risk> [https://perma.cc/8WSV-MTT8] (“I’ve noted the similarities that cryptocurrencies share with risky mortgage bonds and over-the-counter derivatives during the lead up to the [2008] financial crisis.”); WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 3–4, 196–97, 208–21, 228–51.

those shameful episodes by approving regulatory reforms to address the serious abuses that occurred during the corresponding bubbles.¹⁴⁸

II. FEDERAL AND STATE REGULATORS ALLOWED BANKS TO BECOME SIGNIFICANTLY INVOLVED IN CRYPTO-RELATED ACTIVITIES, RESULTING IN THE CATASTROPHIC FAILURES OF THREE BANKS.

A. Banks Established a Substantial Presence in Crypto Markets with the Approval or Acquiescence of Federal and State Regulators.

During the crypto boom, federal and state regulators permitted banks to engage in a wide range of crypto-related activities. The Office of the Comptroller of the Currency (OCC) issued four interpretive letters in 2020 and 2021, expressing the OCC's view that national banks are authorized to engage in a variety of crypto-related activities as described in those letters.¹⁴⁹ The OCC's first letter stated that national banks may provide custodial and safekeeping services for cryptocurrencies.¹⁵⁰ The OCC's second letter said that national banks may hold deposits as "reserves" for stablecoins issued by other entities if the issuers promise to maintain a 1:1 parity between their stablecoins and a designated fiat currency.¹⁵¹

The OCC's third letter opined that national banks may issue fiat-backed stablecoins, exchange those stablecoins for fiat currencies, and provide

148. WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 129–42 (discussing the Securities Act of 1933, the Glass-Steagall Act of 1933, and the Securities Exchange Act of 1934); *id.* at 202 (describing reforms mandated by the Sarbanes-Oxley Act of 2002); *id.* at 300–03 (reviewing key provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010); *see also* JOEL SELIGMAN, MISALIGNMENT: THE NEW FINANCIAL ORDER AND THE FAILURE OF FINANCIAL REGULATION 418–25, 449–88, 1060–62, 1114–30 (2020) (analyzing the same statutes).

149. The OCC issued those interpretive letters without providing the public with notice and an opportunity for comment, as the OCC would have been required to do if it adopted "legislative rules" with binding legal effect under the Administrative Procedure Act. *See Perez v. Mortg. Bankers Ass'n*, 575 U.S. 92, 95–97 (2015) (discussing the distinction between "interpretive" and "legislative" rules); *see also* Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed the "Business of Banking,"* 63 U. MIA. L. REV. 1041 (2009) (analyzing a series of interpretive letters issued by the OCC between the 1980s and the early 2000s, and explaining that those letters expanded the OCC's definition of the "business of banking" as well as the scope of permissible derivatives activities for national banks); *id.* at 1105 (noting that the OCC's use of interpretive letters "allowed the OCC to avoid complying with the mandatory rule-making procedures under the Administrative Procedure Act, including the requirement of public notice and comment"). In the absence of notice-and-comment rulemaking, the OCC's interpretive letters discussed in this article would probably be treated by the courts as "interpretive rules," which are "issued by an agency to advise the public of the agency's construction of the statutes and rules which it administers" but "do not have the force and effect of law." *Perez*, 575 U.S. at 97 (quoting *Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 99 (1995)).

150. Office of the Comptroller of the Currency, Interpretive Letter No. 1170 (July 22, 2020), <https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/intl170.pdf> [<https://perma.cc/V6LA-SEDM>].

151. Office of the Comptroller of the Currency, Interpretive Letter No. 1172 (Sept. 21, 2020), <https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/intl1172.pdf> [<https://perma.cc/2FKB-6G8C>].

payment services that use distributed ledgers and other “independent node verification networks.”¹⁵² The OCC’s fourth letter instructed national banks to obtain the agency’s non-objection before engaging in any of the cryptocurrency activities allowed by the agency’s letters.¹⁵³ The fourth letter also required national banks to demonstrate their capability to conduct permitted crypto-related activities in a safe and sound manner with appropriate risk controls.¹⁵⁴

In 2022, the FDIC and the Fed issued similar letters addressing crypto-related activities conducted by banking organizations for which they are the primary federal regulators.¹⁵⁵ Under those letters, a banking organization must notify its primary federal regulator before engaging in crypto-asset activities, and it must be capable of conducting those activities lawfully and in a safe and sound manner.¹⁵⁶ Unlike the OCC’s interpretive letters, the letters issued by the FDIC and the Fed in 2022 did not address the legality of particular crypto-asset activities under federal and state laws, and those letters did not require affected banks to obtain the FDIC’s or the Fed’s non-objection before engaging in such activities.¹⁵⁷ As discussed below, the federal banking agencies expressed a more skeptical and demanding supervisory attitude toward crypto-related activities when the agencies issued additional policy statements in early 2023.¹⁵⁸

A few states have actively encouraged state-chartered financial institutions to become involved in crypto-asset ventures. In 2019 and 2020, Wyoming and Nebraska passed laws authorizing the chartering of special-

152. Office of the Comptroller of the Currency, Interpretive Letter No. 1174 (Jan. 4, 2021), <https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-2a.pdf> [<https://perma.cc/B6LQ-RFUH>].

153. Office of the Comptroller of the Currency, Interpretive Letter No. 1179 (Nov. 18, 2021), <https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2021/intl179.pdf> [<https://perma.cc/3G2M-84DW>].

154. *Id.*

155. The FDIC is the primary federal regulator of FDIC-insured state banks that are not members of the Fed, while the Fed is the primary federal regulator of state member banks and bank holding companies. MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET E. TAHYAR, FINANCIAL REGULATION: LAW & POLICY 175–76, 719 (3d ed. 2021).

156. Federal Deposit Insurance Corporation, Financial Institution Letter No. FIL-16-2022 (Apr. 7, 2022) [hereinafter FDIC FIL-16-2022], <https://www.fdic.gov/news/financial-institution-letters/2022/fil22016.html#letter> [<https://perma.cc/9AK7-CAVE>]; Board of Governors of the Federal Reserve System, Supervision and Regulation Letter No. SR 22-6 / CA 22-6 (Aug. 16, 2022) [hereinafter Fed SR 22-6], <https://www.federalreserve.gov/supervisionreg/srletters/SR2206.htm> [<https://perma.cc/MNU6-FH8D>].

157. FDIC FIL-16-2022, *supra* note 156, nn.1 & 4; Fed SR 22-6, *supra* note 156, nn.4–9; *see also* Katie S. Cox, *Fed’s Crypto Rules Invite Dangerous Experimentation*, AM. BANKER (Dec. 7, 2022, 10:06 AM), <https://www.americabanker.com/opinion/feds-crypto-rules-invite-dangerous-experimentation> [<https://perma.cc/7A55-HD82>] (stating that the Fed’s 2022 letter “leaves it up to the bank to analyze whether [a proposed crypto-related] activity is permissible”).

158. *See infra* notes 355–67 and accompanying text (discussing crypto-related actions taken by federal bank regulators during January and February 2023).

purpose depository institutions (SPDIs), which can engage in a wide range of crypto-related activities.¹⁵⁹ Wyoming’s Division of Banking has chartered four SPDIs with the understanding that (i) SPDIs are not required to obtain deposit insurance from the FDIC and (ii) SPDIs “will likely focus on digital assets, such as virtual currencies, digital securities and digital consumer assets.”¹⁶⁰

Kraken Bank—the first SPDI chartered by Wyoming—is a subsidiary of Kraken, the world’s sixth-largest cryptocurrency exchange by trading volume.¹⁶¹ Kraken Bank intends to offer both traditional and crypto banking products, including deposit accounts, accounts for holding crypto assets, payment services, and custodial services for institutional clients.¹⁶² Its deposits will not be insured by the FDIC.¹⁶³ Kraken Bank’s “vision is to become the world’s trusted bridge between the crypto economy of the future and today’s existing financial ecosystem.”¹⁶⁴ Custodia Bank, another Wyoming SPDI, currently offers custodial and settlement services to institutions that invest in digital assets.¹⁶⁵ Like Kraken, Custodia “intends to provide a full suite of banking and financial services” that will connect “digital assets and the traditional financial system.”¹⁶⁶

The New York Department of Financial Services (NYDFS) has chartered nine nondepository, limited-purpose trust companies that are

159. Arthur E. Wilmarth, Jr., *It’s Time to Regulate Stablecoins as Deposits and Require Their Issuers to Be FDIC-Insured Banks*, BANKING & FIN. SERVS. POL’Y REP., Feb. 2022, at 1, 10, 19 n.70 (2022) [hereinafter Wilmarth, *Stablecoins*], <https://ssrn.com/abstract=4000795> [<https://perma.cc/J4SX-MR4C>]; Wilmarth, Treasury Comment Letter, *supra* note 21, at 14.

160. *Special Purpose Depository Institutions*, WYO. DIV. OF BANKING <https://wyomingbankingdivision.wyo.gov/banks-and-trust-companies/special-purpose-depository-institutions> [<https://perma.cc/V7DT-48PB>].

161. Penny Crosman, *Crypto Exchange Kraken Receives Wyoming Bank Charter*, AM. BANKER (Sept. 16, 2020, 1:39 PM), <https://www.americanbanker.com/news/crypto-exchange-kraken-receives-wyoming-bank-charter> [<https://perma.cc/7C68-35V4>]; Farooq, *supra* note 53 (reporting that Kraken was the world’s sixth-largest cryptocurrency exchange in November 2022); *see also* KRAKEN, <https://www.kraken.com/> [<https://perma.cc/RTJ2-S42M>] (“Kraken is a crypto exchange for everyone . . . [with] 9M+ clients.”).

162. *See Kraken Bank*, KRAKEN, <https://www.kraken.com/bank> [<https://perma.cc/Z8HQ-J89N>]; Crosman, *supra* note 161.

163. *Kraken Bank*, *supra* note 162.

164. *Kraken Wins Bank Charter Approval*, KRAKEN (Sept. 16, 2020), <https://blog.kraken.com/post/6241/kraken-wyoming-first-digital-asset-bank/> [<https://perma.cc/WQ2P-62YX>]; *see also* *Kraken Bank*, *supra* note 162 (stating that Kraken Bank will provide “a more seamless integration between crypto and the traditional financial system”).

165. *Crypto Bank Sues Federal Reserve over Delay in Master Account Application*, DAVIS POLK (June 16, 2022), <https://www.davispolk.com/insights/client-update/crypto-bank-sues-federal-reserve-over-delay-master-account-application> [<https://perma.cc/DP28-X2R6>].

166. *Digital Asset Banking, Custody, and Payment Solutions*, CUSTODIA BANK, <https://custodiabank.com/> [<https://perma.cc/AK67-BPB4>]; *see also* Custodia Bank, Inc., Fed. Rsr. Bd. Order No. 2023-02, at 10–24 (Jan. 27, 2023) (order denying application to become a Fed member bank) (Preliminary) [hereinafter Fed Custodia Bank Order], <https://www.federalreserve.gov/news-events/pressreleases/files/orders20230324a1.pdf> [<https://perma.cc/L6WM-B8CQ>] (describing Custodia’s proposed business activities).

authorized to engage in “virtual currency” activities.¹⁶⁷ The authorized activities for those trust companies include (i) receiving and transmitting virtual currency (including fluctuating-value cryptocurrencies and stablecoins); (ii) providing custodial services for virtual currency owned by others; (iii) buying and selling virtual currency for customers; (iv) performing exchange services for customers; and (v) administering or issuing a virtual currency.¹⁶⁸ One of the trust companies chartered by NYDFS is Paxos Trust Company, which provides institutional clients with brokerage, custodial, exchange, and payment services related to cryptocurrencies. Paxos issues its own stablecoin, Pax Dollar (USDP), and Paxos previously issued the BUSD stablecoin that it cosponsored with Binance.¹⁶⁹ Gemini Trust is another NYDFS-chartered, limited-purpose trust company that provides crypto-related services to its customers.¹⁷⁰

The foregoing state-chartered, crypto-focused institutions are not insured by the FDIC. More than 130 FDIC-insured national and state banks have either engaged in crypto-related activities or made plans to do so.¹⁷¹ For example, in October 2022, BNY Mellon, the eleventh-largest U.S. bank, launched a “digital assets platform” that provides custodial and transfer services to holders of Bitcoin and other cryptocurrencies.¹⁷² BNY Mellon

167. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 82–83.

168. *Id.* at 83 n.192; Letter from N.Y. Dept. of Fin. Servs. to Covered Insts., Industry Letter: Prior Approval for Covered Institutions’ Virtual Currency-Related Activity (Dec. 15, 2022), https://www.dfs.ny.gov/system/files/documents/2022/12/il20221215_prior_approval.pdf [<https://perma.cc/ZP66-2WQS>]; see N.Y. COMP. CODES R. & REGS. tit. 23, § 200.2(p)(q) (2021) (defining “virtual currency” and “virtual currency business activity”).

169. *What Is BUSD?*, BINANCE ACAD. (Dec. 28, 2022), <https://academy.binance.com/en/articles/what-is-busd> [<https://perma.cc/43XU-ANSQ>] (“BUSD is a stablecoin founded by Binance and Paxos.”); *Paxos: Building the Open Financial System*, PAXOS, <https://paxos.com/company/> [<https://perma.cc/TWTJ-ZLTE>] (describing the services offered by Paxos Trust Co.); Emma Avon, *DAI Alternatives: Stablecoins Similar to DAI*, COINCODEX (Feb. 10, 2020), <https://coincodex.com/article/6731/dai-alternatives-stablecoins-similar-to-dai/> [<https://perma.cc/5WW3-VRAN>]; Gertrude Chavez-Dreyfuss, *Paxos Gets U.S. Regulator Nod for Gold-Backed Token, Dollar-Backed Stablecoin*, REUTERS (Sept. 5, 2019, 11:18 AM), <https://www.reuters.com/article/us-crypto-currencies-paxos/paxos-gets-u-s-regulator-nod-for-gold-backed-token-dollar-backed-stablecoin-idUSKCN1VQ26P> [<https://perma.cc/DR55-ZNWE>]. In February 2023, as discussed below, NYDFS ordered Paxos to stop issuing new BUSD coins. See *infra* notes 395–96 and accompanying text.

170. See *supra* notes 135–41, *infra* notes 321–23 and accompanying text (discussing the Gemini Earn program created by Genesis and Gemini Trust).

171. OFF. OF INSPECTOR GEN., FED. DEPOSIT INS. CORP., TOP MANAGEMENT AND PERFORMANCE CHALLENGES FACING THE FEDERAL DEPOSIT INSURANCE CORPORATION 10 (2023), https://www.fdicoig.gov/sites/default/files/reports/2023-02/TMPC%20Final%202-16-23_0.pdf [<https://perma.cc/U2LF-CJVT>] (“[A]s of January 2023, the FDIC was aware that 136 insured banks had ongoing or planned crypto asset-related activities.”).

172. Benjamin Bain, *U.S. Bank Watchdogs Issue Joint Warning on Crypto Activities*, BLOOMBERG (Jan. 3, 2023, 5:12 PM), <https://www.bloomberg.com/news/articles/2023-01-03/top-us-bank-watchdogs-issue-joint-warning-on-crypto-activities> [<https://perma.cc/M97S-P66G>]; Kyle Campbell, *Custodia Cries Foul over Regulators Giving BNY Mellon Green Light for Crypto*, AM. BANKER (Oct. 13, 2022, 1:14 PM), <https://www.americanbanker.com/news/custodia-cries-foul-over-crypto>.

also acts as custodian for reserves held by Circle's USDC stablecoin and provides accounting and administrative services for Grayscale's GBTC.¹⁷³

Several FDIC-insured banks became more deeply involved with the crypto industry. Signature Bank and Silvergate Bank served as the “two main banks for crypto companies” and provided extensive deposit and payment services to crypto enterprises.¹⁷⁴ Both banks established real-time payment networks that enabled crypto firms and their customers to make payments to each other and to exchange cryptocurrencies for dollars.¹⁷⁵

Signature, a New York state-chartered bank, held over \$100 billion of deposits in November 2022, with almost a quarter of those deposits received from crypto firms.¹⁷⁶ Silvergate, a California state-chartered bank and a Fed member bank, held \$13 billion of deposits in September 2022, of which

regulators-giving-bny-mellon-greenlight-for-crypto [<https://perma.cc/UZZ6-99FM>]; Catherine Leffert, *Custody Battle: How Legacy Financial Institutions Are Entering Crypto*, AM. BANKER (Oct. 17, 2022, 2:38 PM), <https://www.americanbanker.com/news/custody-battle-how-legacy-financial-institutions-are-entering-crypto> [<https://perma.cc/6XRK-SG9Z>]; see also *Large Commercial Banks*, FED. RSRV. STAT. RELEASE, <https://www.federalreserve.gov/releases/lbr/current/> [<https://perma.cc/3KC9-ZV62>] (showing that BNY Mellon was the eleventh-largest U.S. bank in December 2022, with \$325 billion of assets); Lee Reiners & Sangita Gazi, *Wanted: A Prudential Framework for Crypto-Assets*, 76 ARK. L. REV. (forthcoming 2023) (manuscript at 7–8), <http://ssrn.com/abstract=4327091> [<https://perma.cc/T3DH-TPR3>] (describing the custodial services provided by BNY Mellon and U.S. Bank to crypto firms and analyzing the risks associated with those services).

173. Hannah Lang, *BNY Mellon Chosen as Custodian for Circle's Stablecoin Reserves*, REUTERS (Mar. 31, 2022, 4:27 PM), <https://www.reuters.com/business/finance/bny-mellon-chosen-custodian-circles-stablecoin-reserves-2022-03-31/> [<https://perma.cc/8BV7-DPZK>].

174. MacKenzie Sigalos, *What the Failures of Signature, SVB and Silvergate Mean for the Crypto Sector*, CNBC (Mar. 13, 2022, 7:19 PM), <https://www.cnbc.com/2023/03/12/signature-svb-silvergate-failures-effects-on-crypto-sector.html> [<https://perma.cc/C6ZV-H2AB>] (describing Signature's and Silvergate's services for crypto firms, and stating that Signature and Silvergate were “the two most bitcoin-friendly banks, supporting the lion's share of fiat settlement of bitcoin trades between counterparties in the U.S.”).

175. *Id.*; David Benoit & Rachel Louise Ensign, *Deposits Gyrate at Crypto-Tied Banks*, WALL ST. J., Aug. 16, 2022, at B1; see also Penny Crosman, *Why New York Community Bank Is Minting Stablecoins*, AM. BANKER (Nov. 29, 2021, 3:17 PM), <https://www.americanbanker.com/news/why-new-york-community-bank-is-minting-stablecoins> [<https://perma.cc/RCT3-5MKX>] (discussing the “blockchain-based” networks offered by Silvergate and Signature to crypto firms and investors); Tabby Kinder, *Silvergate: From Tiny Local Lender to Bank Behind the Crypto Boom*, FIN. TIMES (Dec. 9, 2022), <https://www.ft.com/content/5c960a79-ccbe-4805-a137-7e5241251c4e> [<https://perma.cc/9AQV-KXWA>] (stating that the Silvergate Exchange Network created by Silvergate Bank allowed “crypto investors to transfer U.S. dollars from their bank accounts on to a crypto exchange instantly and 24/7 as long as both the exchange and investor banked with Silvergate”); Simona Ram, Heather Budrevičienė & Ciaran Lawler, *Signature Bank Limits Crypto Deposits: Is It a Big Deal?*, DAILYCOIN (Jan. 26, 2023, 3:30 PM), <https://dailycoin.com/signature-bank-limits-crypto-deposits/> [<https://perma.cc/23KS-NW9F>] (“Signet, [Signature Bank's] blockchain-based digital payments platform. . . allows bank business clients to fund and settle their accounts on crypto exchanges 24/7.”).

176. Dan McCrum & Joshua Franklin, *Signature Bank Bet Big on Crypto — and Must Now Reckon with the Crash*, FIN. TIMES (July 27, 2022), <https://www.ft.com/content/34df0a7d-c0ea-41ee-b36e-1a5802c8360b> [<https://perma.cc/BE6G-QQAB>]; see also Joshua Franklin, *Signature Says It Is 'Not Just a Crypto Bank' as It Sheds Deposits*, FIN. TIMES (Dec. 6, 2022), <https://www.ft.com/content/616a6900-43bc-4fa7-bde1-543ae799adfb> [<https://perma.cc/5W3G-GF45>] (“About 23 per cent of Signature's \$103bn in customer deposits were related to the crypto industry as of the middle of November.”).

about 90% were received from crypto firms.¹⁷⁷ Silvergate also served as “a central lender to the crypto industry.”¹⁷⁸ Signature and Silvergate provided deposit and payment services to Celsius, FTX, and Alameda, and both banks became embroiled in the bankruptcy proceedings for those firms.¹⁷⁹

Silicon Valley Bank (SVB), a California state-chartered bank, also developed significant relationships with crypto firms. SVB provided deposit, lending, and securities services to crypto startups as well as venture capital firms that sponsored such startups. In addition, SVB provided custodial and deposit services to established crypto firms like Circle, Ripple, and BlockFi.¹⁸⁰

177. Benoit & Ensign, *supra* note 175; Kinder, *supra* note 175; Connie Kim, *Silvergate Ditches Mortgage Warehouse Lending, Cuts 20% of Workforce*, HOUSINGWIRE (Jan. 5, 2023, 12:51 PM), <https://www.housingwire.com/articles/silvergate-ditches-mortgage-warehouse-lending-cuts-20-of-workforce/> [<https://perma.cc/4UNQ-5KZW>]; Hannah Levitt, *Minibubbles in US Banking Are Popping with Costs in the Billions*, BLOOMBERG (Jan. 12, 2023, 7:45 AM), <https://www.bloomberg.com/news/articles/2023-01-12/minibubbles-in-us-banking-are-popping-with-costs-in-the-billions> [<https://perma.cc/DJ7J-88LQ>]; Joshua Oliver, *US Bank Silvergate Defends Ties to Sam Bankman-Fried’s Crypto Groups*, FIN. TIMES (Dec. 6, 2022), <https://www.ft.com/content/38ac9101-4642-4acf-92ba-3f7580987deb> [<https://perma.cc/B9TR-7WJX>]; David Thomas, *Silvergate, Provident Bancorp, and Signature Bank Got Burned Playing with Crypto*, BEINCRYPTO (Nov. 22, 2022, 7:00 PM), <https://beincrypto.com/banks-get-burned-playing-with-crypto/> [<https://perma.cc/44GG-QF5Q>].

178. Sigalos, *supra* note 174.

179. David Benoit, *Lawmakers Want Answers from Silvergate About FTX Transfers*, WALL ST. J., Dec. 7, 2022, at B2; Kinder, *supra* note 175; McCrum & Franklin, *supra* note 176; Max Reyes, *An Obscure Bank Found Its Key to Success. Then FTX Collapsed*, WASH. POST (Dec. 12, 2022, 6:53 AM), https://www.washingtonpost.com/business/on-small-business/an-obscure-bank-found-its-key-to-success-then-ftx-collapsed/2022/12/09/bc428e96-77c5-11ed-a199-927b334b939f_story.html [<https://perma.cc/6FLG-WHZY>]; Thomas, *supra* note 177; see also Bain, *supra* note 172 (reporting that FTX’s bankruptcy filings listed Silvergate and Signature “as places where [FTX] or related entities had accounts”); Oliver, *supra* note 177 (reporting that Silvergate maintained “at least eight [deposit] accounts” for Alameda, and Silvergate processed “wire transfers for individuals and companies who traded with Alameda”).

180. Jonathan Ching, Joshua Ashley Klayman & Jennifer Calver, *Silvergate, Silicon Valley Bank, Signature and the “Unbanking” of U.S. Crypto*, LINKLATERS (Mar. 17, 2023), <https://www.linklaters.com/en/insights/blogs/fintechlinks/2023/march/silvergate-silicon-valley-bank-signature-and-the-unbanking-of-us-crypto> [<https://perma.cc/YA5V-UR3Y>]; Stacy Elliott, *As Silicon Valley Bank Falls, Crypto Firms Brace for ‘Extinction-Level’ Tech Startup Turmoil*, DECRYPT (Mar. 10, 2023), <https://decrypt.co/123197/silicon-valley-banks-crypto-extinction-level-tech-startup-turmoil> [<https://perma.cc/2B3A-9ZQ4>]; Sander Lutz & André Beganski, *Silicon Valley Bank Contagion: Affected Firms Include BlockFi, Circle, Avalanche, Ripple*, DECRYPT (Mar. 13, 2023), <https://decrypt.co/123199/silicon-valley-bank-crypto-companies-contagion> [<https://perma.cc/66NB-B62P>]; Marco Quiroz-Gutierrez, *Silicon Valley Bank Catered Largely to Tech, but Crypto Firms Were Caught in the Collapse*, FORTUNE (Mar. 13, 2023, 3:48 PM), <https://fortune.com/crypto/2023/03/13/silicon-valley-bank-crypto-companies-caught-in-the-collapse/> [<https://perma.cc/WY96-5UMB>]; Zhiyuan Sun, *Failed Tech Bank SVB Held over \$5B for Prominent Crypto VCs: Report*, COINTELEGRAPH (Mar. 11, 2023), <https://cointelegraph.com/news/failed-tech-bank-svb-held-over-5b-for-prominent-crypto-vcs-report> [<https://perma.cc/93QL-8UXW>]; see also Scott Chipolina, *Crypto’s Brush with Disaster After SVB Collapse*, FIN. TIMES (Mar. 17, 2023), <https://www.ft.com/content/f48999ce-6237-48e9-aaab-3926d0c80797> [<https://perma.cc/V4RS-RV8Z>] (“Silicon Valley Bank, Signature Bank and Silvergate Capital once served as a vital tripartite of lenders happy to take deposits from crypto companies . . .”).

At least two FDIC-insured national banks have provided crypto trading services to retail customers either directly or through an affiliate. With the OCC's permission, Vast Bank, N.A.—a national bank located in Tulsa, Oklahoma—offers crypto banking accounts that allow its customers to buy, sell, and hold cryptocurrencies and to deposit the proceeds of cryptocurrency sales in their checking accounts.¹⁸¹ In addition, SoFi Technologies, Inc. (SoFi) provides crypto trading services to its customers through a subsidiary, SoFi Digital Services (SoFi Digital), a state-licensed money transmitter.¹⁸² In February 2022, SoFi acquired a California national bank with \$5.3 billion of assets, and SoFi renamed the bank as SoFi Bank, N.A. (SoFi Bank).¹⁸³

As a condition of SoFi's acquisition, SoFi Bank agreed not to engage in crypto-related activities without first obtaining a non-objection from the OCC.¹⁸⁴ The Fed determined that SoFi Digital's crypto trading services were not permissible for SoFi after it acquired SoFi Bank and became a bank holding company (BHC). However, based on a transitional exemption in the Bank Holding Company Act (BHC Act),¹⁸⁵ the Fed allowed SoFi Digital to continue offering crypto trading services for up to five years.¹⁸⁶

The Federal Reserve Bank of San Francisco approved SoFi's acquisition of SoFi Bank without a public hearing or a published opinion.¹⁸⁷ SoFi's acquisition of SoFi Bank threatened to erode the legal boundaries separating

181. Penny Crosman, *Community Bank Enlists Coinbase, SAP to Offer Crypto*, AM. BANKER (Feb. 3, 2021, 3:41 PM), <https://www.americanbanker.com/news/community-bank-enlists-coinsap-to-offer-crypto> [https://perma.cc/AX6N-Q85R] (reporting that Vast Bank formed a partnership with Coinbase that enabled its customers to "buy cryptocurrency from their bank accounts" after "working with the OCC's Office of Innovation on its crypto initiative"); Penny Crosman, *Crypto-Friendly Banks Stay the Course Despite Bitcoin Volatility*, AM. BANKER (June 27, 2022, 2:31 PM), <https://www.americanbanker.com/news/crypto-friendly-banks-stay-the-course-despite-bitcoin-volatility> [https://perma.cc/5ZNB-V9NR] (reporting that Vast Bank "lets customers buy 13 different digital currencies through its website and mobile banking app"); *see also* VAST.BANK, *Vast Crypto Banking*, <https://www.vast.bank/crypto-banking> [https://perma.cc/KB22-Q2J4] ("Vast Bank is the first nationally chartered U.S. bank that allows you to buy, sell, and hold cryptocurrency assets through your mobile banking app.").

182. SoFi Techs., Inc., Annual Report (Form 10-K), at 9–10, 12, 16–18, 54–55 (Mar. 1, 2022) [hereinafter SoFi 10-K Report], <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001818874/2533ab52-232a-47de-869b-8d771622cdee.pdf> [https://perma.cc/3FMF-ET36].

183. *Id.* at 2–9, 12–14, 29, 75, 78, 116, 160–61, 213.

184. *Id.* at 53.

185. 12 U.S.C. §§ 1841–1852.

186. SoFi 10-K Report, *supra* note 182, at 9–10, 53–54. Section 4(a)(2) of the BHC Act, 12 U.S.C. § 1843(a)(2), allows SoFi to engage in activities that are not permitted for BHCs for a period of two years after it first became a BHC in February 2022. The Fed may extend that transitional exemption period for three additional years. *See* WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 181–82.

187. Release H.2 No. 4, Fed. Rsr., Actions of the Board, Its Staff, and Federal Reserve Banks; Applications and Reports Received (Jan. 22, 2022), <https://www.federalreserve.gov/Releases/H2/20220122/h2.pdf> [https://perma.cc/LP2S-N6WB] ("Actions under delegated authority—January 16, 2022 to January 22, 2022: Bank Holding Companies.").

FDIC-insured banks from crypto trading, just as the Fed's approval of Travelers's acquisition of Citicorp in 1998 severely undermined then-existing legal barriers that separated U.S. banks from the capital markets.¹⁸⁸

In November 2022, Senator Sherrod Brown (D-OH) and three other Senators warned federal bank regulators about the "significant risks to both individual investors and safety and soundness" created by SoFi's acquisition of SoFi Bank.¹⁸⁹ The Senators pointed out that SoFi Digital described one of the cryptocurrencies it sold to retail investors as a "crypto pump-and-dump" scheme. In addition, SoFi launched a new service in March 2022, which allowed SoFi Bank's depositors to use a portion of their direct deposits to pay for purchases of cryptocurrencies from SoFi Digital.¹⁹⁰ SoFi Digital described its new service as "the latest expansion of SoFi's offerings to make it simpler to get started with cryptocurrency investing."¹⁹¹

Another very troubling transaction occurred in March 2022, when FTX's affiliate Alameda invested \$11.5 million and obtained a voting interest of slightly less than 10% (along with a majority equity interest) in FBH Corp. (FBH). FBH is the parent holding company of Farmington State Bank (FSB), an FDIC-insured state bank located in Bellevue, Washington. FSB adopted the trade name "Moonstone Bank" for its online banking operations shortly before Alameda made its investment.¹⁹² In March 2022, FBH and FSB announced that FSB would become a "top provider of innovative financial services to fast-growing industries such as blockchain,

188. See Pam Martens & Russ Martens, *With Crypto Bank, SoFi, the Fed Is Setting the Stage for the Same Disastrous Decision It Made with Citigroup in 1999*, WALL ST. ON PARADE (Nov. 29, 2022), <https://wallstreetonparade.com/2022/11/with-crypto-bank-sofi-the-fed-is-setting-the-stage-for-the-same-disastrous-decision-it-made-with-citigroup-in-1999/> [https://perma.cc/2SYD-WEAK].

189. Press Release, U.S. S. Comm. on Banking, Hous. & Urb. Affs., Brown, Colleagues Call on Bank Regulators to Review SoFi's Crypto Activities (Nov. 21, 2022), <https://www.banking.senate.gov/newsroom/majority/brown-colleagues-bank-regulators-review-sofis-crypto-activities> [https://perma.cc/ES24-XP7Z] (summarizing and quoting letters sent to federal bank regulators by Senators Sherrod Brown (D-OH), Chris Van Hollen (D-MD), Jack Reed (D-RI), and Tina Smith (D-MN)).

190. *Id.*

191. *Id.* (quoting SoFi's public announcement of the new service).

192. Thomas Clouse, *Moonstone: How a State Charter for a Tiny Bank in Farmington Could Have Built a Financial Empire*, SPOKESMAN-REV. (Dec. 5, 2022, 5:11 PM), <https://www.spokesman.com/stories/2022/dec/04/moonstone-how-a-state-charter-for-a-tiny-bank-in-f/> [https://perma.cc/65VV-CNND]; Cox, *supra* note 157; Penny Crosman, *Surviving FTX: Fintechs and Banks Untangle Themselves*, AM. BANKER (Nov. 30, 2022, 3:47 PM), <https://www.americanbanker.com/news/surviving-ftx-fintechs-and-banks-untangle-themselves> [https://perma.cc/CB55-J4PY]; *The Curious Case of FTX and Farmington State Bank, aka Moonstone*, PROTOS (Nov. 24, 2022, 1:18 PM) [hereinafter *Curious Moonstone Case*], <https://protos.com/the-curious-case-of-ftx-and-farmington-state-bank-aka-moonstone/> [https://perma.cc/CY5V-CZMY]; Claire Williams, *FDIC 'Looking Closely' at Farmington State Bank in FTX Fiasco*, AM. BANKER (Dec. 1, 2022, 2:07 PM), <https://www.americanbanker.com/news/fdic-looking-closely-at-farmington-state-bank-in-ftx-fiasco> [https://perma.cc/TR96-HN7G].

cryptocurrencies and cannabis.”¹⁹³ A leading financial journal reported that “the primary motivation” for Alameda’s investment in FSB was to allow FTX to “offer crypto-yield programs in a way that would bypass [SEC] regulations” by exploiting regulatory exemptions for investment products offered by banks.¹⁹⁴ FTX never achieved that goal, but FTX held about \$50 million of deposits at FSB when FTX filed for bankruptcy.¹⁹⁵

FBH’s chairman, Jean Chalopin, was also the chairman of Deltec Bank & Trust. Deltec is a Bahamian bank that provided banking services to FTX as well as Tether, the issuer of the world’s largest stablecoin (and one of FTX’s major trading partners). Despite FBH’s connections with leading crypto firms, the Fed approved FBH’s acquisition of FSB in September 2020, and the San Francisco Fed approved FSB’s application to become a Fed member bank in June 2021.¹⁹⁶ Those approvals gave FSB a Fed master account and access to loans from the Fed’s discount window.¹⁹⁷ FBH’s acquisition of FSB, FSB’s application to become a Fed member bank, and Alameda’s ownership stake in FSB raised very significant policy issues, given the likelihood that FSB would be “repurposed as a crypto foothold in the banking system.”¹⁹⁸

In December 2022, Senators Elizabeth Warren (D-MA) and Tina Smith (D-MN) stated that “crypto firms may have closer ties to the banking system than previously understood.”¹⁹⁹ They warned that the involvement of FSB,

193. John Heltman, *The Crypto Contagion May Not Be That Contained*, AM. BANKER (Nov. 29, 2022, 3:15 PM), <https://www.americanbanker.com/opinion/the-crypto-contagion-may-not-be-that-contained> [https://perma.cc/6N7S-TQ3W] (quoting a joint press release issued by FBH and FSB). In January 2023, FSB announced that it would stop using the trade name “Moonstone Bank” and would return to FSB’s “original mission as a community bank” because the bank had “decided not to continue with the digital Moonstone Bank that we were starting to build.” Thomas Clouse, *Feds Seize \$50M from Farmington State Bank Tied to Bankman-Fried*, SPOKESMAN-REV. (Jan. 24, 2023, 8:43 PM), <https://www.spokesman.com/stories/2023/jan/24/feds-seize-50-million-from-farmington-state-bank-t/> [https://perma.cc/XK95-FWGF] (quoting FSB’s press release and a statement by FSB executive Josey Booth).

194. Peter Rudegeair, Alexander Osipovich & David Benoit, *Tiny Farming-Town Bank Got Tangled Up with FTX*, WALL. ST. J., Feb. 1, 2023, at B1.

195. *Id.* (reporting that DOJ seized \$50 million of deposits held by FTX at FSB after FTX failed).

196. Clouse, *supra* note 192; Cox, *supra* note 157; *Curious Moonstone Case*, *supra* note 192; Stephen Gandel, *Bank Stake by Exchange Draws Scrutiny*, N.Y. TIMES, Nov. 24, 2022, at B3; Rudegeair et al., *supra* note 194.

197. *Curious Moonstone Case*, *supra* note 192; Heltman, *supra* note 193; *see also infra* note 425 and accompanying text (discussing benefits received by holders of Fed master accounts).

198. Heltman, *supra* note 193; *see also* Clouse, *supra* note 192 (stating that FSB’s bank charter “provided a foot in the door to open the legitimacy of the banking industry to the world of cryptocurrency”).

199. Press Release, Sen. Elizabeth Warren, Warren, Smith Ask Key Regulators About Banking System’s Exposure to Crypto Risks After FTX Crash (Dec. 8, 2022), <https://www.warren.senate.gov/oversight/letters/warren-smith-ask-key-regulators-about-banking-systems-exposure-to-crypto-risks-after-ftx-crash> [https://perma.cc/Z3WZ-K5B6]; Chelsey Cox, *U.S. Lawmakers Press Federal Banking Regulators on the Industry’s Exposure to Crypto After Alameda Stake in Bank Comes to Light*, CNBC

Signature, Silvergate, and other FDIC-insured banks with crypto ventures raised “questions about the safety and soundness of our banking system and highlight[ed] potential loopholes that crypto firms may try to exploit to gain further access” to the banking system.²⁰⁰ The numerous links described above between crypto firms and FDIC-insured banks indicate that federal regulators allowed banks to become much more deeply involved with crypto firms than their public statements in 2022 suggested.²⁰¹

A survey conducted in mid-2022 identified more than sixty large U.S. and foreign banks that held investments in crypto-related enterprises.²⁰² In 2022, eight big foreign banks (Barclays, BNP Paribas, BBVA, ING, MUFG, Nomura, Standard Chartered, and UBS) and five major U.S. banks (BNY Mellon, Citigroup, Goldman Sachs, JPMorgan Chase (JPMC), and Morgan Stanley) each held investments larger than \$100 million in crypto ventures.²⁰³ Each of the five U.S. banks held over \$200 million of crypto-related investments, and BNY Mellon’s investments topped \$300 million, equal to more than 1.5% of its Core Tier 1 capital.²⁰⁴ Large global banks have additional exposures to crypto firms as a result of the trading, clearing, underwriting, and custodial services they provide to those firms.²⁰⁵ In spite of the crypto crash, prominent domestic and foreign banks have expressed a strong desire to maintain and expand their relationships with crypto-related ventures.²⁰⁶

(Dec. 8, 2022, 1:40 PM), <https://www.cnbc.com/2022/12/08/crypto-us-lawmakers-press-federal-banking-regulators-on-industrys-exposure-after-ftx-collapse.html> [<https://perma.cc/7EEZ-8J72>].

200. Press Release, Sen. Elizabeth Warren, *supra* note 199; *see also supra* notes 171–98, *infra* notes 211–65, 282–86 and accompanying text (discussing crypto activities conducted by FDIC-insured banks and problems experienced by several of those banks).

201. *See, e.g.*, FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 17 (“Overall, the level of involvement by the banking system in crypto-asset activities remains relatively low.”); *id.* at 18 (“Current interconnections are unlikely to cause banks to bear losses in response to a shock in the crypto-asset ecosystem.”); FIN. STABILITY OVERSIGHT COUNCIL, 2022 ANNUAL REPORT 33 (2022), <https://home.treasury.gov/system/files/261/FSOC2022AnnualReport.pdf> [<https://perma.cc/7UUW-S8WN>] (“The current regulatory framework, and the limited overall scale of crypto-asset activities, have helped largely insulate traditional financial institutions from the acute instability seen in the crypto-asset ecosystem.”). The foregoing statements proved to be inaccurate when Silvergate Bank, Signature Bank, and SVB Bank collapsed in March 2023. *See infra* Part II.B.

202. *Top Banks Investing in Crypto and Blockchain May 2022 Update*, BLOCKDATA (Sept. 4, 2022), <https://www.blockdata.tech/blog/general/top-banks-investing-in-crypto-and-blockchain-may-2022-update> [<https://perma.cc/JWG6-RGZG>] (reporting that sixty-one large U.S. and foreign banks held investments in crypto firms and blockchain development companies).

203. BIS 2022 ANNUAL REPORT, *supra* note 9, at 88, 89 fig.6.B.

204. *Id.*

205. Auer et al., *Banking and Bitcoin*, *supra* note 17, at 7–9.

206. Savannah Fortis, *Silvergate and Signature Are Out, But Major Banks Are Still Backing Crypto Firms*, COINTELEGRAPH (Mar. 14, 2023), <https://cointelegraph.com/news/svb-and-silvergate-are-out-but-major-banks-are-still-backing-crypto-firms> [<https://perma.cc/HA9E-BZJX>]; *see also* Anna Irrera, Suvasree Ghosh & Yueqi Yang, *Wall Street Giants Spy Opportunities Rising from FTX Ashes*, BLOOMBERG (Jan. 30, 2023, 11:23 AM), <https://www.bloomberg.com/news/articles/2023-01-30/wall-street-giants-spy-opportunities-rising-from-ftx-ashes>.

In February 2023, LevelField Financial, which “offers trading and custody services to digital asset holders,” announced an agreement to acquire Burling Bank, an FDIC-insured state bank headquartered in Chicago.²⁰⁷ Following that acquisition, Burling Bank intends to “focus on retail digital-asset holders” who want to “monetize their [digital] assets” by taking out loans collateralized by those assets.²⁰⁸ In addition, LevelField and Burling Bank plan to “market a turnkey service” to other banks, which would enable those banks “to offer trading, custody and other digital services to their customers.”²⁰⁹ LevelField’s proposed business plan for Burling Bank closely resembles the digital asset trading services that Vast Bank and SoFi Bank have offered to their customers.²¹⁰

B. Several FDIC-Insured Banks Experienced Major Problems During the Crypto Crash, and the Failures of Three of Those Banks Threatened the Stability of the U.S. Banking System.

As the crypto crash deepened during the fall of 2022 and the first quarter of 2023, several FDIC-insured banks with significant exposures to crypto-related activities encountered serious difficulties. Two of those banks decided to stop doing business with crypto firms. In January 2023, Metropolitan Commercial Bank, a New York state-chartered bank, announced that it was terminating its deposit and payment services for crypto firms after it lost half of its crypto-related deposits and became entangled in Voyager Digital’s bankruptcy proceedings.²¹¹ Provident

street-giants-spy-opportunities-rising-from-ftx-ashes [<https://perma.cc/444C-5J32>] (“Despite all that’s gone wrong in the [crypto] industry, with trillions in losses, spectacular bankruptcies, the arrest of Sam Bankman-Fried – the world’s largest custodian bank and other financial giants are hoping to expand in crypto – not shrink.”).

207. John Reosti, *With Eye on Crypto, Houston Firm Buying Chicago Community Bank*, AM. BANKER (Feb. 1, 2023, 6:02 PM), <https://www.americanbanker.com/news/houston-digital-asset-firm-buying-chicago-bank> [<https://perma.cc/D59X-2A3G>]; see also *CRA Examination Schedule: FDIC Examinations Scheduled for Third Quarter 2021 – Chicago Region*, FED. DEPOSIT INS. CORP. (Feb. 24, 2021), <https://www.fdic.gov/resources/bankers/community-reinvestment-act/examination-schedule/chi21cra3.html> [<https://perma.cc/4B5Y-J6WG>] (listing Burling Bank as an FDIC-insured and FDIC-supervised state nonmember bank (FDIC Certificate No. 27556) headquartered in Chicago).

208. Reosti, *supra* note 207.

209. *Id.* LevelField announced that its acquisition of Burling Bank would enable LevelField “to offer fully compliant traditional banking and digital asset services, and LevelField will seek to expand these offerings nationwide.” Press Release, LevelField, LevelField Financial to Become First Full-Service Chartered Bank to Offer Traditional Banking and Digital Assets Services Nationwide (Feb. 1, 2023), <https://www.prnewswire.com/news-releases/levelfield-financial-to-become-first-full-service-chartered-bank-to-offer-traditional-banking-and-digital-asset-services-nationwide-301736156.html> [<https://perma.cc/W866-V5XH>].

210. See *supra* notes 181–91 and accompanying text (discussing Vast Bank and SoFi Bank).

211. See Alex Graf, *Metropolitan Bank Looking to Other Funding Sources After Crypto Exit*, SNL BANK & THRIFT DAILY, Jan. 23, 2023, 2023 WLNR 3029676; David Thomas, *Metropolitan Bank Calls*

Bancorp, a Massachusetts bank holding company, stated that it would no longer make loans to crypto miners after it suffered significant losses on those loans and reported a net loss for 2022.²¹²

Unlike Metropolitan and Provident, Silvergate Bank maintained its commitment to crypto-related activities despite the severe problems it encountered after FTX and Alameda collapsed.²¹³ During the fourth quarter of 2022, Silvergate incurred a \$1 billion net loss, lost over two-thirds of its crypto-related deposits, shut down its mortgage warehouse lending business, and laid off 40% of its staff.²¹⁴ Silvergate “shored up its liquidity” by obtaining \$4.3 billion of advances from the Federal Home Loan Bank of San Francisco (FHLB-SF), and Silvergate’s parent company suspended dividends on its preferred stock “to preserve capital.”²¹⁵

The FHLB-SF’s advances were secured loans that had priority over the FDIC’s claims as deposit insurer if Silvergate failed.²¹⁶ Accordingly, the

It Quits on Crypto Following Silvergate Scare, BEINCRYPTO (Jan. 9, 2023, 5:25 PM), <https://beincrypto.com/metropolitan-bank-calls-it-quits-on-crypto-following-silvergate-scare/> [https://perma.cc/DY6D-RMCH]; Thomas, *supra* note 177; Claire Williams, *Voyager Is the Tip of the Iceberg*, AM. BANKER (July 20, 2022, 1:55 PM), <https://www.americanbanker.com/news/crypto-firm-voyager-is-the-tip-of-the-iceberg> [https://perma.cc/ELR5-F27E].

212. See Jim Dobbs, *Provident in Massachusetts Pushing Past Crypto Woes*, AM. BANKER (Feb. 1, 2023, 2:51 PM), <https://www.americanbanker.com/news/provident-in-massachusetts-pushing-past-crypto-woes> [https://perma.cc/5KHE-S7DZ]; Jim Dobbs, *Provident Bancorp in Massachusetts Stung by Cryptocurrency Weakness*, AM. BANKER (Nov. 17, 2022, 3:03 PM), <https://www.americanbanker.com/news/provident-bancorp-in-massachusetts-stung-by-cryptocurrency-weakness> [https://perma.cc/4R87-H23L]; Thomas, *supra* note 177.

213. See David Benoit, *Crypto Bank Takes Hit to Cover Withdrawals*, WALL ST. J., Jan. 6, 2023, at A1 (“Silvergate said it remains committed to crypto . . . [despite] a loss of confidence in crypto that snowballed after FTX’s collapse.”).

214. Nikou Asgari, *US Bank Silvergate Sinks to \$1bn Loss as Crypto Crisis Takes a Toll*, FIN. TIMES (Feb. 17, 2023), <https://www.ft.com/content/8c372d9c-6e87-4068-953f-cdfb460edf41> [https://perma.cc/F6DB-XFXN] (reporting that Silvergate “sold \$5.7bn in assets in the final three months of 2022 at a loss of \$751mn as it raced to meet [deposit] withdrawals”); Benoit, *supra* note 213 (reporting that Silvergate’s loss during the fourth quarter of 2022 “exceeds the bank’s total profit since at least 2013”); Kim, *supra* note 177 (reporting that Silvergate closed its mortgage warehouse lending business); Yueqi Yang & Hannah Levitt, *Crypto Panic at Silvergate Spawns a New Breed of Bank Run*, BLOOMBERG (Jan. 6, 2023, 11:44 AM), <https://www.bloomberg.com/news/articles/2023-01-06/crypto-panic-at-silvergate-spawns-a-new-breed-of-bank-run> [https://perma.cc/SNX8-G5FS] (stating that Silvergate lost almost 70% of its \$11.9 billion of crypto-related deposits during the fourth quarter of 2022).

215. Kate Berry, *Silvergate Loaded up on \$4.3 Billion of Home Loan Bank Advances*, AM. BANKER (Jan. 10, 2023, 1:56 PM), <https://www.americanbanker.com/news/silvergate-bank-loaded-up-on-4-3-billion-in-fhlb-advances> [https://perma.cc/3P8R-9TYE]; Daniel Taub, *Silvergate Suspends Preferred Dividend to Preserve Capital*, BLOOMBERG L. (Jan. 27, 2023, 9:39 AM), https://www.bloomberg.com/bloomberglawnews/banking-law/X9MR5MJC000000?bna_news_filter=banking-law#jcite [https://perma.cc/TW2T-9MEY].

216. Berry, *supra* note 215; Press Release, Sen. Elizabeth Warren, Senators Warren, Marshall, Kennedy, Release New Information, Renew Push for Answers from Silvergate Bank over Role in FTX Collapse (Jan. 31, 2023) [hereinafter Warren-Marshall-Kennedy Press Release on Silvergate], <https://www.warren.senate.gov/oversight/letters/senators-warren-marshall-kennedy-release-new-information-renew-push-for-answers-from-silvergate-bank-over-role-in-ftx-collapse> [https://perma.cc/8UXB-UYPG].

FHLB-SF's advances created a significant potential risk of loss to the Deposit Insurance Fund while those advances remained outstanding.²¹⁷ Senators John Kennedy (R-LA), Roger Marshall (R-KS), and Elizabeth Warren (D-MA) warned that “[b]y using the FHLB as its functional ‘lender of last resort,’ Silvergate has further introduced crypto market risk into the traditional banking system.”²¹⁸

Silvergate held about \$1 billion of deposits from FTX, Alameda, and related entities when those companies collapsed.²¹⁹ Silvergate became the subject of intense public and private scrutiny concerning its alleged failure to prevent FTX from misappropriating its customers' funds. In December 2022, Senators Kennedy, Marshall, and Warren demanded that Silvergate explain its role in FTX's transfers to Alameda of customer funds held in Silvergate's deposit accounts.²²⁰ In addition, the DOJ launched a criminal investigation of Silvergate's involvement in those transfers.²²¹ Silvergate was named as a defendant in four class action lawsuits, two of which alleged that Silvergate knowingly or negligently allowed FTX to divert its customers' funds to Alameda.²²²

During the crypto crash, Signature Bank continued to offer crypto-related services but reduced its exposures to crypto firms and attempted to cut its crypto-related deposits to less than 15% of its total deposits.²²³ As a

217. Warren-Marshall-Kennedy Press Release on Silvergate, *supra* note 216; see also Berry, *supra* note 215; John Heltman, *Silvergate's Home Loan Bank Advances Are Further Proof of Crypto Contagion*, AM. BANKER (Jan. 10, 2023, 3:38 PM), <https://www.americanbanker.com/opinion/silvergates-home-loan-bank-advances-are-further-proof-of-crypto-contagion> [https://perma.cc/2DX7-H2V4].

218. Warren-Marshall-Kennedy Press Release on Silvergate, *supra* note 216.

219. Benoit, *supra* note 179; see also Kinder, *supra* note 175 (discussing deposit accounts that FTX and “related entities” established at Silvergate); Oliver, *supra* note 177 (describing deposit accounts maintained by Alameda at Silvergate).

220. Benoit, *supra* note 179 (discussing letter sent to Silvergate by Senators Kennedy, Marshall, and Warren). The three Senators renewed their demands in January 2023, after they received a response from Silvergate that they considered to be “largely evasive” and “unsatisfactory.” Warren-Marshall-Kennedy Press Release on Silvergate, *supra* note 216.

221. Tom Schoenberg, *Silvergate Faces US Fraud Probe Over FTX and Alameda Dealings*, BLOOMBERG (Feb. 2, 2023, 4:03 PM), <https://www.bloomberg.com/news/articles/2023-02-02/silvergate-faces-doj-fraud-probe-over-ftx-and-alameda-dealings> [https://perma.cc/4WV2-RS6D].

222. Andrew Asmakov, *Crypto Bank Silvergate Hit With Class Action Lawsuit over FTX, Alameda Dealings*, DECRYPT (Dec. 16, 2022), <https://decrypt.co/117405/crypto-bank-silvergate-hit-class-action-lawsuit-ftx-alameda-dealings> [https://perma.cc/RBW3-KJ82] (discussing a class action lawsuit filed by Joewy Gonzalez); Pam Martens & Russ Martens, *Federally-Insured, Crypto-Focused Silvergate Bank Loses 43 Percent of Its Market Value Yesterday as Depositors Flee*, WALL ST. ON PARADE (Jan. 6, 2023), <https://wallstreetonparade.com/2023/01/federally-insured-crypto-focused-silvergate-bank-loses-43-percent-of-its-market-value-yesterday-as-depositors-flee/> [https://perma.cc/8L3T-MBE2] (describing four class action lawsuits filed against Silvergate, including a lawsuit filed by Sepulveda Zuleta and other plaintiffs).

223. Dorian Batycka, *Signature Bank Now Servicing Multiple Crypto Companies in the Wake of Silvergate Distress*, CRYPTOSLATE (Mar. 3, 2023, 1:44 AM), <https://cryptoslate.com/signature-bank-now-servicing-multiple-crypto-companies-in-the-wake-of-silvergate-distress/> [https://perma.cc/26UW-4RGL]; Franklin, *supra* note 176.

result of that strategy, Signature's deposits declined by 17% during 2022, and the bank replaced those lost funds by obtaining almost \$10 billion of advances from the Federal Home Loan Bank of New York during the fourth quarter.²²⁴

Like Silvergate, Signature became the subject of private and public scrutiny concerning its crypto-related activities. A class action lawsuit was filed against Signature alleging that the bank "substantially facilitated" FTX's unauthorized transfers of its customers' funds to Alameda.²²⁵ The DOJ launched an investigation of Signature's dealings with FTX, Alameda, and other crypto firms to determine whether Signature violated laws prohibiting money laundering.²²⁶ Other banks that did business with FTX and Alameda—including Bank of America, JPMC, and Wells Fargo—also faced the possibility that private parties or government agencies might claim that the banks failed to prevent misconduct by FTX's and Alameda's executives.²²⁷

Crypto-related problems intensified at Silvergate, SVB, and Signature in March 2023. On March 1, Silvergate disclosed that it had suffered additional losses during the first two months of 2023. Silvergate warned that

224. Kate Berry, *Signature Bank Taps Home Loan Bank Advances in Crypto Pullback*, AM. BANKER (Jan. 17, 2023, 8:17 AM), <https://www.americanbanker.com/news/signature-bank-to-tap-home-loan-bank-advances-in-crypto-pullback> [https://perma.cc/GNB7-PLVK]; Franklin, *supra* note 176; Levitt, *supra* note 177; McCrum & Franklin, *supra* note 176; John Reosti, *Signature Bank's Deposits Plummet as It Scales Back Crypto Exposure*, AM. BANKER (Jan. 17, 2023, 4:45 PM), <https://www.americanbanker.com/news/signature-banks-deposits-plummet-as-it-scales-back-crypto-exposure> [https://perma.cc/F9D3-DP5N]; see also Rachel Louise Ensign & David Benoit, *Banks Steer Clear of Crypto Firms Amid Clampdown*, WALL ST. J., Feb. 17, 2023, at A1 ("Signature Bank cut ties with the international business of Binance, the biggest crypto exchange. The lender, one of crypto's leading banks, started paring back its relationships with crypto depositors late last year.").

225. Andrew Asmakov, *Signature Bank Lawsuit Alleges It 'Substantially Facilitated' FTX Fraud*, DECRYPT (Feb. 7, 2023), <https://decrypt.co/120739/signature-bank-lawsuit-alleges-substantially-facilitated-ftx-fraud> [https://perma.cc/RH8W-5TZR] (quoting Statistica Capital's class action complaint against Signature Bank); see also Robert Burnson, *Signature Bank Accused in Lawsuit of Overlooking FTX Fraud*, BNN BLOOMBERG (Feb. 6, 2023), <https://www.bnnbloomberg.ca/signature-bank-accused-in-lawsuit-of-overlooking-ftx-fraud-1.1880278> [https://perma.cc/QD9V-EBG2] (same).

226. Tom Schoenberg, Ava Benny-Morrison & Austin Weinstein, *Signature Bank Faced Criminal Probe Ahead of Firm's Collapse*, BLOOMBERG (Mar. 15, 2023, 11:29 AM), <https://www.bloomberg.com/news/articles/2023-03-15/signature-bank-faced-criminal-probe-ahead-of-firm-s-collapse> [https://perma.cc/FX4Y-GPUB]; see also Stephen Gandel & Joshua Franklin, *Short Seller Warned Federal Regulator About Signature in January*, FIN. TIMES (Mar. 21, 2023), <https://www.ft.com/content/8dfade4a-3e16-454c-9529-1c46263a20be> [https://perma.cc/GQ3N-NVJF] (reporting that Marc Cohodes, a short seller in Signature's stock, told the FDIC in January 2023 that "SBNY has played a central role as a facilitator, even if unwitting, for countless illegal crypto transactions," including a \$370,000 pandemic assistance loan that Signature arranged for Alameda).

227. Penny Crosman, *What the Indictments Against FTX's Sam Bankman-Fried Mean for Banks*, AM. BANKER (Dec. 28, 2022, 1:46 PM), <https://www.americanbanker.com/news/what-the-indictments-against-ftxs-sam-bankman-fried-mean-for-banks> [https://perma.cc/YGS3-24XW]; see also Schoenberg, *supra* note 221 ("[O]ne of the biggest outstanding questions surrounding the FTX debacle: What did banks and intermediaries working with Bankman-Fried's firms know about . . . a years-long scheme to defraud investors and customers?").

it could become “less than well-capitalized” and was “evaluating . . . its ability to continue as a going concern.”²²⁸ Silvergate’s stock price fell by more than half on March 2, and several leading crypto firms—including Circle, Coinbase, and Paxos Trust—terminated their banking relationships with Silvergate.²²⁹ On March 3, Silvergate shut down its real-time payment network for crypto firms and their customers.²³⁰ Five days later, Silvergate adopted a plan of voluntary liquidation, which required the bank to wind down its operations and repay its depositors.²³¹

Silvergate’s demise resulted from its rapid growth during the crypto boom, its heavy reliance on deposits from crypto firms (a majority of which were uninsured), and rapid withdrawals of those deposits after FTX and Alameda failed.²³² Silvergate held a large portfolio of fixed-rate government

228. Kate Berry & John Heitman, *Silvergate Has ‘Fully Repaid’ Home Loan Bank Advances*, AM. BANKER (Mar. 2, 2023, 3:57 PM), <https://www.americanbanker.com/news/silvergate-has-fully-repaid-home-loan-advances> [https://perma.cc/MUV9-WT5D] (quoting a regulatory filing by Silvergate); see also Joshua Franklin & Scott Chipolina, *Crypto Bank Silvergate Plunges After Warning on Ability to Survive*, FIN. TIMES (Mar. 2, 2023), <https://www.ft.com/content/d25c4e79-936e-445b-a664-087af642d2f9> [https://perma.cc/7Z27-Z33P] (same); Max Reyes, *Silvergate’s Big Crypto Losses Feed Watchdogs’ Worst Fears*, BLOOMBERG (Mar. 2, 2023, 4:14 AM), <https://www.bloomberg.com/news/articles/2023-03-02/silvergate-s-worsening-crypto-losses-feed-watchdogs-worst-fears#xj4y7vzk> [https://perma.cc/AM34-CJ7W] (same). Silvergate’s additional losses during the first two months of 2023 resulted primarily from its need to sell depreciated securities from its investment portfolio to repay the FHLB-SF’s advances and offset large withdrawals of its crypto-related deposits. See Franklin & Chipolina, *supra*; Reyes, *supra*.

229. Emily Mason, *Silvergate Bank Extends Downward Spiral After U.S. Criticism Spurs Losses*, FORBES (Mar. 6, 2023, 6:36 PM), <https://www.forbes.com/sites/emilymason/2023/03/06/silvergate-bank-extends-downward-spiral-after-us-criticism-spurs-losses/?sh=71e4ecf7236a> [https://perma.cc/B59G-RN9H]; Caitlin Ostroff & Charley Grant, *Silvergate Rattles Crypto Sector*, WALL ST. J., Mar. 3, 2023, at B1.

230. Max Reyes, Yueqi Yang & Tom Schoenberg, *Silvergate Shuts Crypto Payments Network It Once Hyped*, BLOOMBERG (Mar. 3, 2023, 5:56 PM), <https://www.bloomberg.com/news/articles/2023-03-03/silvergate-payment-network-suspended-as-bank-questions-viability> [https://perma.cc/A7JA-XEAJ]; see also Nikhilesh De & Ian Allison, *Silvergate Closes SEN Platform Institutions Used to Move Money to Crypto Exchanges*, COINDESK (Mar. 6, 2023, 10:48 AM), <https://www.coindesk.com/policy/2023/03/03/silvergate-suspends-sen-exchange-network/> [https://perma.cc/KY7G-HK5C] (reporting that Silvergate shut down its Silvergate Exchange Network, a “24/7 instant settlement service” that “institutions used to move money to crypto exchanges”).

231. Steven Church, *Silvergate Plans to Wind Down Operations and Liquidate*, BLOOMBERG (Mar. 9, 2023, 4:06 AM), <https://www.bloomberg.com/news/articles/2023-03-08/silvergate-plans-to-wind-down-bank-operations-and-liquidate> [https://perma.cc/B3M3-XJ53]; Rachel Louise Ensign, *Crypto Bank Silvergate to Close, Liquidate*, WALL ST. J., Mar. 9, 2023, at A1. Silvergate repaid its advances from the FHLB-SF before it began its voluntary liquidation. Kate Berry, *Silvergate Bank Says It’s Self-Liquidating, Winding Down Operations*, AM. BANKER (Mar. 8, 2023, 5:56 PM), <https://www.americanbanker.com/news/silvergate-bank-say-its-self-liquidating-winding-down-operations> [https://perma.cc/2PAK-6BCK].

232. Berry, *supra* note 231 (reporting that Silvergate experienced a “run on deposits” from crypto firms, and a majority of its deposits in January 2023 were not insured by the FDIC); Lex, Opinion, *Silvergate: Crypto-Friendly Bank’s Failure Is Led by Customers*, FIN. TIMES (Mar. 9, 2023), <https://www.ft.com/content/f242881d-3dfa-4a45-b1ea-a5c2128d5fa6> [https://perma.cc/GMU4-P3YQ] (“Rising interest rates, falling crypto prices, and official probes into FTX spelt disaster [for Silvergate].

securities, and the market values of those securities declined significantly as the Fed raised interest rates during 2022.²³³ Silvergate was forced to sell many of its investment securities to provide the funds it needed to cover deposit withdrawals and repay the FHLB-SF's advances. Silvergate incurred crippling mark-to-market losses on those sales.²³⁴

Two days after Silvergate announced its voluntary liquidation plan, federal and state regulators placed Silicon Valley Bank (SVB) in an FDIC receivership.²³⁵ At the time of its downfall, SVB was the second-largest bank to fail in U.S. history (exceeded only by Washington Mutual's collapse in 2008).²³⁶ SVB's failure was caused by factors similar to those that felled Silvergate—rapid growth during the tech and crypto booms, large concentrations of deposits within the venture capital, technology, and crypto sectors, a high percentage of uninsured deposits, excessive interest-rate risk created by large investments in longer-term, fixed-rate securities, and a run on deposits by its customers.

SVB's deposits almost doubled during the tech and crypto booms and reached \$198 billion in March 2022, as SVB's venture capital, technology, and crypto clients poured money into the bank.²³⁷ SVB invested about

The bank's near \$1bn annual loss last year eclipsed net income for the past five years combined."); *Silvergate's Assets in Billions* (illustration), in Jesse Hamilton, *The Rise and Fall of Silvergate's Crypto Business*, COINDESK (Mar. 3, 2023, 4:10 PM), <https://www.coindesk.com/policy/2023/03/03/the-rise-and-fall-of-silvergates-crypto-business/> [https://perma.cc/PTL3-9XTZ] (showing that Silvergate's assets grew from about \$2 billion in June 2020 to \$16 billion in December 2021).

233. Telis Demos, *Silvergate's Story Is About Fundamentals*, WALL ST. J., Mar. 10, 2023, at B12; Hamilton, *supra* note 232.

234. Demos, *supra* note 233; see also Berry & Heltman, *supra* note 228 (reporting that Silvergate "fully repaid" the advances it received from the FHLB-SF); Amy Castor & David Gerard, *Silvergate, Banker to the Crypto World, Is Going Down*, ATTACK OF THE 50 FOOT BLOCKCHAIN (Mar. 2, 2023), <https://davidgerard.co.uk/blockchain/2023/03/02/silvergate-banker-to-the-crypto-world-is-going-down/> [https://perma.cc/R67B-TUYU] (describing the "massive" losses that Silvergate suffered when it was forced to sell depreciated investment securities to cover deposit withdrawals); Hamilton, *supra* note 232 ("Silvergate Bank lost more than \$8 billion in deposits from its crypto customers in the final months of 2022 as its core block of business crumbled under the industry's implosion.").

235. Kyle Campbell, *In Bank Failures, Some See a Predictable Result After Rapid Rate Hikes*, AM. BANKER (Mar. 21, 2023, 2:52 PM), <https://www.americanbanker.com/news/in-bank-failures-some-see-a-predictable-result-after-rapid-rate-hikes> [https://perma.cc/H7WS-NMJJ]; Jesse Pound, *Silicon Valley Bank Is Shut Down by Regulators in Biggest Bank Failure Since Global Financial Crisis*, CNBC (Mar. 10, 2023, 8:41 PM), <https://www.cnbc.com/2023/03/10/silicon-valley-bank-is-shut-down-by-regulators-fdic-to-protect-insured-deposits.html> [https://perma.cc/ZKM3-QYJD].

236. *Silicon Valley Bank Shut Down by US Banking Regulators*, FIN. TIMES (Mar. 10, 2023) [hereinafter *SVB Shut Down*], <https://www.ft.com/content/6943e05b-6b0d-4f67-9a35-9664fb456504> [https://perma.cc/4RJB-ZQA6].

237. Tabby Kinder, Antoine Gara, Joshua Franklin & George Hammond, *Silicon Valley Bank: The Spectacular Unravelling of the Tech Industry's Banker*, FIN. TIMES (Mar. 11, 2023), <https://www.ft.com/content/b556badb-8e98-42fa-b88e-6e7e0ca758b8> [https://perma.cc/AEF8-6XVJ]; Marc Rubinstein, *The Demise of Silicon Valley Bank*, NET INTEREST (Mar. 10, 2023), <https://www.netinterest.co/p/the-demise-of-silicon-valley-bank> [https://perma.cc/34LR-RXDU]; see also Allissa Kline, *California Regulator Will Review Its Supervision of Silicon Valley Bank*, AM.

\$120 billion of its deposits in government and agency mortgage-backed securities. More than \$90 billion of those securities were longer-term, fixed-rate securities, which SVB classified as “held-to-maturity” (HTM).²³⁸ The Fed’s interest rate hikes during 2022 imposed steep mark-to-market losses on SVB’s fixed-rate securities. By the end of 2022, SVB had accrued more than \$15 billion of unrealized investment losses on its HTM securities, an amount equal to SVB’s total capital.²³⁹

SVB’s deposits dropped to about \$160 billion at the end of February 2023, primarily due to withdrawals by business clients that were struggling with declining revenues during the tech and crypto slumps. To offset its loss of deposits, SVB obtained \$15 billion of advances from the FHLB-SF, and SVB sold \$21 billion of its “available for sale” (AFS) securities. SVB recorded a loss of \$1.8 billion on that sale.²⁴⁰ On March 8, SVB publicly disclosed the loss from its sale of AFS securities, and SVB announced a plan to raise \$2.25 billion of additional capital. SVB revealed, however, that it had a firm commitment for only \$500 million of its planned increase in capital.²⁴¹

SVB’s announcement on March 8 highlighted its vulnerable capital position and created great concerns among its depositors and investors. Those concerns were magnified by Silvergate’s shutdown earlier on March 8, as well as the fact that over 90% of SVB’s deposits were not insured by the FDIC.²⁴² On March 9, SVB failed in its attempt to raise new capital, its stock price plunged by 60%, and its customers withdrew over

BANKER (Mar. 21, 2023, 1:21 PM), <https://www.americanbanker.com/news/california-regulator-will-review-its-supervision-of-silicon-valley-bank> [https://perma.cc/J7MQ-PKUB] (“Silicon Valley Bank was flooded with deposits as the tech sector boomed.”).

238. Kinder et al., *supra* note 237. SVB classified \$91 billion of its investment securities as HTM, which meant that SVB did not have to recognize declines in the market values of those securities if it did not sell any of them. In contrast, SVB was required to recognize losses in the market values of \$26 billion of its investment securities that it classified as “available for sale.” Stephen G. Cecchetti & Kermit L. Schoenholtz, *The Extraordinary Failures Exposed by Silicon Valley Bank’s Collapse*, MONEY & BANKING (Mar. 20, 2023), <https://www.moneyandbanking.com/commentary/2023/3/20/the-extraordinary-failures-exposed-by-silicon-valley-banks-collapse> [https://perma.cc/BMC7-EKGA]; Rubinstein, *supra* note 237.

239. Kinder et al., *supra* note 237; Campbell, *supra* note 235; Rubinstein, *supra* note 237.

240. Polo Rocha & Claire Williams, *Regulators Shut Down Silicon Valley Bank, Capping Abrupt 44-Hour Collapse*, AM. BANKER (Mar. 10, 2023, 12:12 PM), <https://www.americanbanker.com/news/regulators-take-over-silicon-valley-bank-citing-poor-liquidity-and-insolvency> [https://perma.cc/H553-UZQ8]; Rubinstein, *supra* note 237.

241. Kinder et al., *supra* note 237; Rocha & Williams, *supra* note 240.

242. Campbell, *supra* note 235; Penny Crosman, *Did VCs and Twitter Trolls Help Take Down Silicon Valley Bank?*, AM. BANKER (Mar. 13, 2023, 10:31 AM), <https://www.americanbanker.com/news/did-vcs-and-twitter-trolls-help-take-down-silicon-valley-bank> [https://perma.cc/9F97-NFVF]; Maureen Farrell, *Failed Lender Mixed Hubris and Missteps*, N.Y. TIMES, Mar. 15, 2023, at A1; Rocha & Williams, *supra* note 240; Rubinstein, *supra* note 237; David Yaffe-Bellany, Erin Griffith & Mike Isaac, *Bank’s Sudden Collapse Sets Off Finger-Pointing Across Tech Industry*, N.Y. TIMES, Mar. 12, 2023, at A21.

\$40 billion of their deposits.²⁴³ Federal and state regulators closed SVB shortly before noon on Friday, March 10.²⁴⁴ SVB's California regulator stated that SVB had a "negative cash balance" of almost \$1 billion, was "incapable of paying its obligations as they come due," and was therefore "insolvent."²⁴⁵

On March 10, the FDIC, acting as receiver for SVB, announced that it was transferring SVB's insured deposits to an FDIC-created bridge bank.²⁴⁶ The FDIC stated that SVB's insured depositors would have "full access" to their deposits on March 13. In contrast, holders of uninsured deposits would receive only an "advance dividend" on their deposits, and "future dividend payments" would depend on the FDIC's ability to sell SVB's assets at favorable prices.²⁴⁷

Venture capital firms, technology firms, and their supporters in Congress strongly criticized the FDIC's decision not to protect SVB's uninsured depositors. During the weekend of March 11–12, they vigorously lobbied the Biden Administration to provide full coverage for SVB's uninsured

243. *Recent Bank Failures and the Federal Regulatory Response: Hearing Before the S. Comm. on Banking, Hous. & Urb. Affs.*, 117th Congress 6–7 (2023) (statement of Martin J. Gruenberg, Chairman, Fed. Deposit Ins. Corp.) [hereinafter Gruenberg Statement], <https://www.fdic.gov/news/speeches/2023/spmar2723.pdf> [<https://perma.cc/9YDR-T6MR>]; Kinder et al., *supra* note 237; Rocha & Williams, *supra* note 240.

244. Campbell, *supra* note 235; Farrell, *supra* note 242; Gruenberg Statement, *supra* note 243; Kinder et al., *supra* note 237; Rocha & Williams, *supra* note 240.

245. Silicon Valley Bank, Cal. Dep't of Fin. Prot. & Innovation (Mar. 10, 2023), <https://dfpi.ca.gov/wp-content/uploads/sites/337/2023/03/DFPI-Orders-Silicon-Valley-Bank-03102023.pdf> [<https://perma.cc/Z6GC-C5N8>] (order taking possession of property and business).

On April 28, 2023 (after the manuscript for this article was completed), the Fed and the Government Accountability Office (GAO) issued reviews of SVB's failure. BD. OF GOVERNORS OF FED. RSRV. SYS., REVIEW OF THE FEDERAL RESERVE'S SUPERVISION AND REGULATION OF SILICON VALLEY BANK (2023) [hereinafter FED SVB REPORT], <https://www.federalreserve.gov/publications/files/svb-review-20230428.pdf> [<https://perma.cc/4AEG-53AH>]; U.S. GOV'T ACCOUNTABILITY OFF., BANK REGULATION: PRELIMINARY REVIEW OF AGENCY ACTIONS RELATED TO MARCH 2023 BANK FAILURES (2023) [hereinafter GAO SVB-SIGNATURE REPORT], <https://www.gao.gov/assets/820/819616.pdf> [<https://perma.cc/5PVS-WJ2T>]. The Fed and the GAO determined that the primary causes of SVB's failure were (i) rapid growth without adequate risk controls; (ii) the excessive focus of SVB's management on short-term profits without adequate consideration of longer-term risks; (iii) SVB's heavy reliance on uninsured deposits held by venture capital, technology, and life sciences firms, which withdrew large amounts of their deposits following sharp downturns in those industry sectors during 2022 and early 2023; (iv) SVB's failure to manage the liquidity risks created by its uninsured deposits and its large investments in longer-term government securities, which rapidly depreciated in value as the Fed raised interest rates during 2022; and (v) the Fed's failure to take adequate and timely enforcement measures after its examiners and supervisory staff identified a number of SVB's growing risks. FED SVB REPORT, *supra*, at 2–9, 16–24, 27–75; GAO SVB-SIGNATURE REPORT, *supra*, at 10–25; see also Andrew Ackerman & Ben Eisen, *Regulatory Stumbles Cited in SVB's Fall*, WALL ST. J., Apr. 29, 2023, at A4 (discussing the results of the Fed's and GAO's reviews of SVB's failure).

246. Press Release, Fed. Deposit Ins. Corp., FDIC Creates a Deposit Insurance National Bank of Santa Clara to Protect Insured Depositors of Silicon Valley Bank, Santa Clara, California (Mar. 12, 2023), <https://www.fdic.gov/news/press-releases/2023/pr23016.html> [<https://perma.cc/E7RG-EYTS>].

247. *Id.*

deposits.²⁴⁸ Their demands for a bailout of uninsured depositors were strengthened by the fact that Signature Bank, another large bank with \$110 billion of assets, faced imminent failure on the evening of Friday, March 10.²⁴⁹

Like SVB, Signature expanded rapidly during the crypto and tech booms, and about 90% of Signature's deposits were not insured by the FDIC.²⁵⁰ Many of Signature's large depositors became greatly concerned about Signature's exposures to crypto firms after Silvergate and SVB collapsed.²⁵¹ On March 10, Signature's stock price dropped by nearly a quarter, and the bank's depositors withdrew almost \$20 billion of their funds.²⁵² Signature received many additional requests for deposit withdrawals after it closed on March 10 for the weekend, "setting Signature up for a Monday meltdown."²⁵³ The likelihood that Signature "wouldn't be able to open" on March 13 alarmed regulators, who saw clear indications that "the panic was spreading" to other troubled regional banks.²⁵⁴

It is also possible—though not publicly confirmed—that the deliberations of financial regulators during the weekend of March 11–12

248. Andrew Ackerman, Andrew Duehren & Rebecca Ballhaus, *Frantic Weekend Led Officials to One Conclusion*, WALL ST. J., Mar. 17, 2023, at A7; Alan Rappaport, Lauren Hirsch, Jeanna Smialek & Jim Tankersley, *How Washington Decided to Rescue Silicon Valley Bank*, N.Y. TIMES, Mar. 15, 2023, at A1; Colby Smith, James Politi, Ortence Aliaj & James Fontanella-Khan, *The Weekend US Officials Hatched a Plan to Stave Off a Banking Crisis*, FIN. TIMES (Mar. 13, 2023), <https://www.ft.com/content/56a8df6b-3466-4524-9f02-16bc3276c580> [https://perma.cc/YZF9-DSYV]; Jeff Stein & Tony Romm, *Bailout Debated in Bank Collapse*, WASH. POST, Mar. 12, 2023, at A1; see also David Z. Morris, *Silicon Valley Bank and Signature Bank Reignite 'Moral Hazard' Dilemma Bitcoin Was Designed to End*, COINDESK (Mar. 13, 2023, 3:05 PM), <https://www.coindesk.com/consensus-magazine/2023/03/13/silicon-valley-bank-and-signature-bank-reignite-too-big-to-fail-debate-coindesk/> [https://perma.cc/N8WL-PZQ3] ("As soon as Silicon Valley Bank was shuttered Friday, prominent voices in the venture capital world began explicitly demanding that all uninsured deposits be guaranteed by the government.").

249. Ackerman et al., *supra* note 248; Smith et al., *supra* note 248.

250. Vivian Giang, *How 2 Banks Collapsed in 3 Days*, N.Y. TIMES, Mar. 14, 2023, at A12; see also Gruenberg Statement, *supra* note 243, at 8–9 (explaining that SVB and Signature both relied heavily on uninsured deposits and experienced rapid growth, and noting that Signature's assets increased from \$43 billion to \$118 billion between 2017 and 2021).

251. Rachel Louise Ensign & David Benoit, *Signature's Client Mix Fueled Woes*, WALL ST. J., Mar. 20, 2023, at B1; Gruenberg Statement, *supra* note 243, at 10–11; Konrad Putzier & Peter Grant, *Real Estate Investors Fuel Signature's Demise*, WALL ST. J., Mar. 16, 2023, at B10.

252. Ensign & Benoit, *supra* note 251 (reporting that Signature's depositors withdrew \$18 billion of their funds on March 10); Giang, *supra* note 250 ("Signature saw a torrent of deposits leaving its coffers on Friday . . . and the bank's stock . . . also continued to tank."); Nick Timiraos, Andrew Ackerman & Andrew Duehren, *U.S. Takes Steps to Stem Bank Fallout*, WALL ST. J., Mar. 13, 2023, at A1 ("Signature shares fell 23% on [March 10], its worst day since it went public in 2004.").

253. Ensign & Benoit, *supra* note 251; see also Campbell, *supra* note 235 (stating that Signature faced "mounting [deposit] withdrawal requests over the weekend" of March 11–12); Gruenberg Statement, *supra* note 243, at 11 ("Over the weekend, liquidity risk at the bank rose to a critical level as withdrawal requests mounted . . .").

254. Ackerman et al., *supra* note 248; see also Gruenberg Statement, *supra* note 243, at 11 ("With the rapid collapse of SVB and Signature Bank in the space of 48 hours, concerns arose that risk could spread to other institutions and that the financial system as a whole could be placed at risk.").

were influenced by a looming crisis in crypto markets. On the evening of March 10, Circle disclosed that \$3.3 billion of the reserves for its USDC stablecoin were deposited at SVB, and those deposits were “trapped” by SVB’s failure.²⁵⁵ USDC—the world’s second-largest stablecoin—lost its \$1 peg and fell as low as \$0.87, while holders redeemed over \$2 billion of USDC coins.²⁵⁶ In addition, the world’s two largest crypto exchanges, Binance and Coinbase, suspended the ability of their customers to redeem USDC stablecoins for U.S. dollars.²⁵⁷

USDC’s loss of its \$1 peg “caused chaos across centralized and decentralized crypto exchanges alike.”²⁵⁸ DAI, the fourth-largest stablecoin, also lost its \$1 peg and fell as low as \$0.90 because it was “partially backed” by USDC stablecoins.²⁵⁹ One news report warned that USDC’s loss of its \$1 peg had “the potential to send shock waves through the cryptocurrency world” by “trigger[ing] a wave of selling among [stablecoin] holders, potentially sparking a fire sale of [stablecoin] reserves in the banking system.”²⁶⁰ Another cautioned that Circle’s problems “risked an emergency that had the potential to dwarf last year’s [crypto] crash” following the collapse of Terra and Luna.²⁶¹ On the evening of March 10, Circle “called

255. Scott Chipolina, *Crypto Group Circle Admits \$3.3bn Exposure to Failed Silicon Valley Bank*, FIN. TIMES (Mar. 11, 2023), <https://www.ft.com/content/952f0c8f-ef27-48a2-8b21-40b2167bb220> [<https://perma.cc/DYV6-53JT>]; see also Sigalos, *supra* note 174 (“Over the weekend [of March 11–12, 2023], confidence in [the crypto] sector again took a hit” as Circle “admitted to having \$3.3 billion banked with SVB.”).

256. Anna Baydakova, *Why Stablecoin USDC’s Unstable Weekend Matters*, COINDESK (Mar. 14, 2023, 9:22 AM), <https://www.coindesk.com/learn/why-stablecoin-usdc-unstable-weekend-matters/> [<https://perma.cc/B6H4-TDTK>]; Chipolina, *supra* note 255; Brady Dale, *Circle Scrambles Amid SVB Fallout as USDC Loses 1:1 Peg*, AXIOS (Mar. 11, 2023), <https://wwwaxios.com/2023/03/11/circle-usdc-peg-svb> [<https://perma.cc/SL2M-N62K>]; Vicky Ge Huang, Hannah Miao & Caitlin Ostroff, *USD Coin Breaks Peg With Dollar Over Bank Ties*, WALL ST. J., Mar. 13, 2023, at B3; James Hunt, *Silvergate, Grayscale and USDC Depeg: Three Big Stories This Past Week*, BLOCK (Mar. 11, 2023, 9:35 AM), <https://www.theblock.co/post/219031/silvergate-grayscale-and-usdc-depeg-three-big-stories-this-past-week> [<https://perma.cc/4Z27-B6KX>]; Sigalos, *supra* note 174.

257. Hunt, *supra* note 256; Danny Nelson, *Coinbase Pauses Conversions Between USDC and U.S. Dollars as Banking Crisis Roils Crypto*, COINDESK (May 8, 2023, 11:10 PM), <https://www.coindesk.com/business/2023/03/11/coinbase-pauses-conversions-between-usdc-and-us-dollars-as-banking-crisis-roils-crypto/> [<https://perma.cc/HG4H-JNN7>].

258. Hunt, *supra* note 256; see also Nick Baker, *USDC Stablecoin Depegs, Crypto Market Goes Haywire After Silicon Valley Bank Collapses*, COINDESK (Mar. 13, 2023, 10:09 AM), <https://www.coindesk.com/markets/2023/03/11/usdc-stablecoin-and-crypto-market-go-haywire-after-silicon-valley-bank-collapses/> [<https://perma.cc/XB54-QDZ3>] (stating that SVB’s failure and USDC’s loss of its \$1 peg “caused some of the [crypto] industry’s core plumbing to go haywire”).

259. Huang et al., *supra* note 256; Sigalos, *supra* note 174; see also Suzuki Shillsalot, *The DAI Is Cast: MakerDAO Votes to Keep USDC as Primary Reserve*, AMBCRYPTO (Mar. 24, 2023), <https://ambcrypto.com/the-dai-is-cast-makerdao-votes-to-keep-usdc-as-primary-reserve/> [<https://perma.cc/XB3P-P2Y4>] (reporting that the MakerDAO community voted to keep USDC as the “primary reserve” for its DAI stablecoin, thereby confirming “how much DAI was exposed to USDC and how much faith the MakerDAO community had in USDC”).

260. Huang et al., *supra* note 256.

261. Chipolina, *supra* note 180; see also Yaffe-Bellany et al., *supra* note 242 (reporting that Circle’s loss of its \$1 peg created “fears of another crypto industry meltdown”).

for an urgent federal rescue plan for SVB” that would protect uninsured depositors.²⁶²

On Sunday, March 12, NYDFS closed Signature Bank and appointed the FDIC as receiver.²⁶³ Following a series of meetings among federal financial regulators, the FDIC announced on March 12 that it would protect uninsured depositors in both SVB and Signature by invoking the “systemic risk exception” in the Federal Deposit Insurance Act (FDI Act).²⁶⁴ The FDIC and other federal regulators determined that providing full coverage for the uninsured depositors of SVB and Signature Bank was necessary to “avoid or mitigate [the] adverse effects” of protecting only insured depositors, including the risk of causing “deposit outflows” at other banks, thereby inflicting “further damage” on the banking system, financial markets, and the economy.²⁶⁵

262. Chipolina, *supra* note 255; see also Bryce Elder, *Circle’s Stablecoin Banked at SVB and Guess What Happened Next*, FIN. TIMES (Mar. 11, 2023), <https://www.ft.com/content/7c9b2234-c298-4508-b59a-fcc49f6bc40a> [<https://perma.cc/73XR-V7P8>] (quoting a tweet by Circle discussing Circle’s call for a rescue of SVB that would “ensure continuity of this important bank in the U.S. economy”).

263. Press Release, N. Y. Dep’t of Fin. Servs., Superintendent Adrienne A. Harris Announces New York Department of Financial Services Takes Possession of Signature Bank (Mar. 12, 2023), https://www.dfs.ny.gov/reports_and_publications/press_releases/pr20230312 [<https://perma.cc/WJ6W-JWDC>].

On April 28, 2023 (after the manuscript for this article was completed), the FDIC and GAO issued reviews of Signature’s failure. FED. DEPOSIT INS. CORP., FDIC’S SUPERVISION OF SIGNATURE BANK (2023) [hereinafter FDIC SIGNATURE REPORT], <https://www.fdic.gov/news/press-releases/2023/pr23033a.pdf> [<https://perma.cc/LSSF-QQMZ>]; GAO SVB-SIGNATURE REPORT, *supra* note 245. The FDIC and GAO determined that the primary causes of Signature’s failure were (i) rapid growth without adequate risk controls; (ii) Signature’s heavy reliance on uninsured deposits held by firms in the commercial real estate, crypto, private equity, and venture capital industries; (iii) Signature’s failure to adequately manage the liquidity risks created by its uninsured deposits; (iv) adverse contagion effects produced by the failures of crypto firms during 2022 and the collapse of Silvergate and SVB in March 2023; (iv) reputational risks created by Signature’s relationships with crypto firms, which were aggravated by the failures of some of those firms and the sharp downturn in the crypto industry during 2022; and (v) failures by the FDIC to take adequate and timely enforcement measures after its examiners and supervisory staff identified Signature’s growing risks. FDIC SIGNATURE REPORT, *supra*, at 2–41; GAO SVB-SIGNATURE REPORT, *supra* note 245, at 11–19, 25–28; see also Ackerman & Eisen, *supra* note 245 (discussing the results of the FDIC’s and GAO’s reviews of Signature’s failure).

264. Press Release, Fed. Deposit Ins. Corp., Joint Statement by the Department of the Treasury, Federal Reserve, and FDIC (Mar. 12, 2023), <https://www.fdic.gov/news/press-releases/2023/pr23017.html> [<https://perma.cc/URS2-3U23>]; Gruenberg Statement, *supra* note 243, at 11–14; see also Kyle Campbell & Claire Williams, *In Abrupt Reversal, Regulators to Cover Silicon Valley, Signature Uninsured Deposits*, AM. BANKER (Mar. 12, 2023, 8:18 PM), <https://www.americanbanker.com/news/regulators-to-cover-svb-sbny-uninsured-deposits> [<https://perma.cc/45HM-AKQ3>]. For descriptions of the meetings among federal financial regulators on March 11–12, see Ackerman et al., *supra* note 248; Smith et al., *supra* note 248. For analysis of the “systemic risk exception” in 12 U.S.C. § 1823(c)(4)(G), which authorizes the FDIC (with the Treasury Secretary’s approval) to protect a failed bank’s uninsured depositors and other uninsured creditors in order to avoid or mitigate “serious effects on economic conditions or financial stability,” see Arthur E. Wilmarth, Jr., *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 1001–02 (2011) [hereinafter Wilmarth, *Dodd-Frank Act*].

265. Gruenberg Statement, *supra* note 243, at 11–13.

On the same day, the Fed established the Bank Term Funding Program (BTFP) pursuant to the Fed’s emergency lending authority under Section 13(3) of the Federal Reserve Act.²⁶⁶ The BTFP provided loans to banks with terms as long as one year, secured by pledges of Treasury securities and federal agency securities. The BTFP also allowed banks to borrow amounts up to 100% of the par value (face value) of their pledged securities.²⁶⁷ Thus, the Fed assumed the risk of loss on BTFP loans equal to the depreciated market value of pledged securities.²⁶⁸ Critics argued that the BTFP’s terms “offer[ed] a backdoor subsidy to bank investors and management for failing to properly manage interest-rate risks” in their portfolios of investment securities.²⁶⁹

Federal financial regulators hoped that the BTFP would discourage further runs on troubled banks by reassuring depositors that banks “won’t have to liquidate securities and take losses to raise cash.”²⁷⁰ During the second half of March 2023, banks increased their liquidity reserves by borrowing over \$600 billion from the Fed’s discount window, the BTFP, and the Federal Home Loan Bank system.²⁷¹ It was not clear at the end of March 2023 whether the federal government’s emergency measures on March 12 would be successful in forestalling a broader banking crisis, as

266. Press Release, Bd. of Governors of Fed. Rsrv. Sys., Federal Reserve Board Announces It Will Make Available Additional Funding to Eligible Depository Institutions to Help Assure Banks Have the Ability to Meet the Needs of All Their Depositors (Mar. 12, 2023, 6:15 PM) [hereinafter Fed BTFP Press Release], <https://www.federalreserve.gov/news/pressreleases/monetary20230312a.htm> [<https://perma.cc/5P9L-ZL5H>]. For analysis of the Fed’s emergency lending authority under Section 13(3), see BARR ET AL., *supra* note 155, at 1020–30; Wilmarth, *Dodd-Frank Act*, *supra* note 264, at 1001–04.

267. Fed BTFP Press Release, *supra* note 266.

268. The Treasury Department provided \$25 billion from its Exchange Stabilization Fund as a “backstop for the BTFP.” *Id.*; see also Nick Timiraos, Andrew Ackerman & Andrew Duehren, *U.S. Takes Steps to Stem Bank Fallout*, WALL ST. J., Mar. 13, 2023, at A1 (“The [BTFP] would allow banks to borrow at 100 cents on the dollar for securities trading potentially well below that value, potentially putting the government at risk of losses incurred by banks.”).

269. Timiraos et al., *supra* note 268; see also Kate Berry, *What Will It Take to Stop the Cycle of Fear?*, AM. BANKER (Mar. 20, 2023, 5:56 PM), <https://www.americanbanker.com/news/what-will-it-take-to-stop-the-cycle-of-fear/> [<https://perma.cc/8DCV-2DUD>] (quoting Rod Dubitsky’s statement that the Fed was taking “enormous risks” and creating a “really bad precedent” by “funding securities above market value”).

270. Timiraos et al., *supra* note 268.

271. Rachel Louise Ensign, David Harrison & Hannah Miao, *Banks Leaned on a Little-Known Lender in March as Customers Fled*, WALL ST. J. (Apr. 19, 2023, 5:30 AM), <https://www.wsj.com/articles/banks-leaning-on-a-little-known-lender-in-march-as-customers-fled-c09ef6ab> [<https://perma.cc/9XE2-234S>] (reporting that banks borrowed almost \$500 billion from Federal Home Loan Banks during March); Jeanna Smialek & Joe Rennison, *Amid Financial Turmoil, Banks Are Borrowing More from the Fed*, N.Y. TIMES, Mar. 24, 2023, at B4 (reporting that banks borrowed over \$160 billion from the Fed’s discount window and the BTFP during the third week of March).

First Republic Bank and several other regional banks remained under great stress.²⁷²

In addition to the foregoing loans that privately-owned banks obtained from government agencies, the Fed provided \$180 billion of loans to the bridge banks that the FDIC established to continue the operations of SVB and Signature.²⁷³ After conducting auctions for both failed banks, the FDIC transferred most of the deposits and some of the assets of SVB and Signature to New York Community Bank and First Citizens Bank.²⁷⁴ The FDIC estimated that the Deposit Insurance Fund would suffer losses of \$20 billion from SVB's failure and \$2.5 billion from Signature's failure.²⁷⁵ The estimated loss from SVB's collapse represented the FDIC's largest loss from a bank failure since Congress created the FDIC in 1933.²⁷⁶

272. Berry, *supra* note 269; *How Much Longer Will America's Regional Banks Hold Up?*, ECONOMIST (Mar. 23, 2023), <https://www.economist.com/finance-and-economics/2023/03/23/how-much-longer-will-americas-regional-banks-hold-up> [https://perma.cc/7UA4-ZXUS]; Greg Ip, *Threat of a Slow-Boil Banking Crisis Endures*, WALL ST. J., Mar. 30, 2023, at A2; see also Rob Copeland & Maureen Farrell, *On Lifeline, Lender Slips Even Closer to the Brink*, N.Y. TIMES, Mar. 21, 2023, at B1 (discussing First Republic Bank's severe problems); Steve Gelsi, *First Republic Stock Is Getting Battered. Here's How the Bank's Tailspin Started and Why It Hasn't Stopped*, MARKETWATCH (Mar. 25, 2023, 9:28 AM), <https://www.marketwatch.com/story/first-republic-stock-is-getting-battered-heres-how-the-banks-tailspin-started-and-why-it-hasnt-stopped-ac26a48b> [https://perma.cc/8R6C-H74V] (describing First Republic's unresolved challenges).

On May 1, 2023 (after the manuscript for this article was completed), state and federal regulators seized First Republic Bank and placed the bank in an FDIC receivership. The FDIC transferred all of First Republic's deposits (including its uninsured deposits) and most of its assets to JPMC. The FDIC provided extensive financial support for JPMC's acquisition of First Republic, and the FDIC estimated that the Deposit Insurance Fund would suffer a \$13 billion loss from the transaction. Rachel Louise Ensign & Ben Eisen, *First Republic Seized, Sold to JPMorgan*, WALL ST. J., May 2, 2023, at A1; Jennifer Surane, Hannah Levitt & Katanga Johnson, *JPMorgan Ends First Republic's Turmoil After FDIC Seizure*, BLOOMBERG (May 1, 2023, 11:59 AM), <https://www.bloomberg.com/news/articles/2023-05-01/first-republic-seized-by-regulators-will-be-sold-to-jpmorgan#xj4y7vzkg> [https://perma.cc/BL6V-UM8F]. Despite the rescue of First Republic's uninsured depositors by JPMC and the FDIC, several other U.S. regional banks continued to face significant problems. Brooke Masters, Harriet Clarfelt, Nicholas Megaw & Stephen Gandel, *First Republic Rescue Fails to Arrest Slide in Regional Bank Shares*, FIN. TIMES (May 2, 2023), <https://www.ft.com/content/32342f88-2d24-4198-90f1-89eb23bd1def> [https://perma.cc/9YSF-MG93]; Niket Nishant & Chibuike Oguh, *PacWest, Western Alliance Shares Tumble as US Regional Bank Fears Persist*, REUTERS (May 2, 2023, 9:15 PM), <https://www.reuters.com/business/finance/us-regional-bank-stocks-fall-second-day-first-republic-failure-weighs-2023-05-02/> [https://perma.cc/J225-M5X6].

273. Kyle Campbell, *Bank Borrowing from Fed Facilities Stabilizes*, AM. BANKER (Mar. 24, 2023, 3:04 PM), <https://www.americanbanker.com/news/bank-borrowing-from-fed-facilities-stabilizes> [https://perma.cc/RT47-CSQZ].

274. Gruenberg Statement, *supra* note 243, at 14–17.

275. *Id.* at 17.

276. Stephen Gandel, James Fontanella-Kahn, Antoine Gara & Kaye Wiggins, *First Citizens Shares Surge After Silicon Valley Bank Deal*, FIN. TIMES (Mar. 27, 2023), <https://www.ft.com/content/70968033-1dbf-4e31-86a9-6271106be1fc> [https://perma.cc/Y96P-5CKN] (stating that the \$20 billion estimated loss from SVB's failure was “the most costly failure in the history of the [FDIC] . . . eclipsing the \$12bn loss it took on the failure of IndyMac” in 2008).

The failures of SVB and Signature contributed to significant strains in European banking markets.²⁷⁷ An ongoing erosion of confidence in Credit Suisse—reflected in large customer withdrawals and steep declines in Credit Suisse’s stock and bond prices—accelerated after SVB and Signature failed.²⁷⁸ On March 19, Swiss authorities arranged for UBS to make an emergency acquisition of Credit Suisse, supported by more than \$110 billion of liquidity assistance and financial guarantees from the Swiss government.²⁷⁹ On the same day, the Fed established currency swap lines with five major central banks, which increased the ability of those central banks to provide U.S. dollars to banks headquartered in their respective countries.²⁸⁰ Despite that confidence-building measure, investors and analysts expressed continued concerns about the challenges faced by a number of European banks.²⁸¹

277. Martin Arnold, *There Are Several Reasons to Worry About the Health of Europe’s Banks*, FIN. TIMES (Mar. 20, 2023), <https://www.ft.com/content/6af69772-4b8d-4a7c-960c-f233e6ced960> [<https://perma.cc/W2C7-UW3Z>]; Paul Hannon, *Eurozone Banks Throttle Back Lending*, WALL ST. J., Mar. 28, 2023, at B6; Sarah White, Harriet Agnew & Martin Arnold, ‘Cracks Starting to Appear’: How the Failure of SVB Has Rocked European Banks, FIN. TIMES (Mar. 17, 2023), <https://www.ft.com/content/0ebbd142-c060-424b-9f94-056da06c95f6> [<https://perma.cc/VN3P-UB96>].

278. Arnold, *supra* note 277; Owen Walker & Stephen Morris, *Credit Suisse: The Rise and Fall of the Bank that Built Modern Switzerland*, FIN. TIMES (Mar. 24, 2023), <https://www.ft.com/content/072dd83d-232d-4223-9428-801d4437b4f6> [<https://perma.cc/RWE8-9PZR>]; White et al., *supra* note 277.

279. Arnold, *supra* note 277; Marion Halftermeyer & Myriam Balezou, *UBS to Buy Credit Suisse in \$3 Billion Deal to Fight Crisis*, BLOOMBERG L. (Mar. 20, 2023, 3:11 AM), https://www.bloomberg.com/bloombergnews/mergers-and-acquisitions/XEQ46R3K000000?bna_news_filter=mergers-and-acquisitions#jcite [<https://perma.cc/8BCQ-KANF>]; Margot Patrick, Ben Dummett, Dana Cimilluca & Patrick Kowsmann, *UBS Agrees to Buy Rival Credit Suisse*, WALL ST. J., Mar. 20, 2023, at A1; Walker & Morris, *supra* note 278; White et al., *supra* note 277.

280. Press Release, Bd. of Governors of Fed. Rsrvc. Sys., Coordinated Central Bank Action to Enhance the Provision of U.S. Dollar Liquidity (Mar. 19, 2023), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20230319a.htm> [<https://perma.cc/ULX9-CHUH>]; see also Craig Torres, *Fed and Global Central Banks Move to Boost Dollar Funding*, BLOOMBERG L. (Mar. 19, 2023, 10:01 PM), https://www.bloomberg.com/bloombergnews/banking-law/X5BBD2FG000000?bna_news_filter=banking-law#jcite [<https://perma.cc/LN83-LLR4>] (describing a joint statement by Treasury Secretary Yellen and Fed Chair Powell “welcoming the Credit Suisse rescue” and announcing the Fed’s establishment of daily swap lines with the central banks of Canada, the Eurozone, Japan, Switzerland, and the U.K.).

281. Arnold, *supra* note 277; Davide Barbuscia, *As Banking Sector Confidence Falters, Central Banks Called on to Do More*, REUTERS (Mar. 26, 2023, 6:14 PM), <https://www.reuters.com/business/finance/banking-sector-confidence-falters-central-banks-called-do-more-2023-03-26/> [<https://perma.cc/NUSB-VS6D>]; Hannon, *supra* note 277; Chelsey Dulaney, *Liquidity Crunch Looms as ECB Dials Back Support*, WALL ST. J., Apr. 20, 2023, at B10; Martha Muir, Katie Martin, Sam Fleming & Harriet Clarfelt, *Deutsche Bank Weighs on Bank Shares*, FIN. TIMES (Mar. 24, 2023), <https://www.ft.com/content/a730721b-afaf-4e81-b5aa-dcbbd98f3bd3> [<https://perma.cc/J7NZ-X4KM>]; Anna Isaac & Marc Sweney, *Deutsche Bank Leads Sell-off in European Bank Shares*, GUARDIAN (Mar. 24, 2023), <https://www.theguardian.com/business/2023/mar/24/european-bank-shares-fall-as-market-jitters-return-deutsche-bank-ubs-ftse-100> [<https://perma.cc/X7Z6-Q7JS>]; Mark Thompson & Julia Horowitz, *Europe’s Banks Are Still at Risk, Regulator Warns*, CNN BUS. (Mar. 27, 2023, 12:12 PM), <https://www.cnn.com/2023/03/27/business/bank-risks-europe/index.html> [<https://perma.cc/VJ47-2FUQ>].

Venture capital, technology, and crypto firms “breathed a sigh of relief” after the federal government decided to protect SVB’s and Signature’s uninsured depositors.²⁸² The rescue of SVB’s uninsured depositors enabled Circle to regain access to its \$3.3 billion of reserves deposited at SVB, and Circle’s USDC stablecoin reestablished its \$1 peg.²⁸³ Circle’s chief strategy officer described the events of March 10–12 as “‘crypto’s Cuban missile crisis,’ a potential catastrophe averted at the last minute.”²⁸⁴ A prominent financial commentator concluded that Circle was “the largest beneficiary of the bailout” of SVB and “[t]he crypto sector had just benefited from its first federal bailout.”²⁸⁵

The near-disaster that occurred in crypto markets after the failures of Silvergate, SVB, and Signature and the USDC stablecoin’s loss of its \$1 peg demonstrated the great risks of contagion that arise when banks establish significant relationships with crypto firms. The turmoil in crypto markets triggered by SVB’s failure also showed that stablecoins are the most likely source of contagion between banks and crypto firms because stablecoins serve as the principal point of contact between crypto markets and traditional financial markets.²⁸⁶

282. Scott Chipolina, *Cryptocurrency Prices Soar on Support for Silicon Valley Bank Depositors*, FIN. TIMES (Mar. 13, 2023), <https://www.ft.com/content/488d22cb-9aa4-44c8-8961-f2be235a868c> [<https://perma.cc/MC7E-4TMS>] (describing the response of crypto firms to the rescue of SVB’s uninsured depositors); Kia Kokalitcheva, *Navigating SVB’s New Era*, AXIOS (Mar. 18, 2023), <https://wwwaxios.com/2023/03/18/svb-silicon-valleys-new-era> [<https://perma.cc/B63K-DN5F>] (using the same phrase to describe the response of tech startups).

283. Baydakova, *supra* note 256; Chipolina, *supra* note 180; Chipolina, *supra* note 282; J.P. Koning, Opinion, *USDC Boasted Transparency but It Didn’t Help When Silicon Valley Bank Got into Trouble*, COINDESK (Apr. 5, 2023, 1:26 PM), <https://www.coindesk.com/consensus-magazine/2023/04/05/usdc-boasted-transparency-but-it-didnt-help-when-silicon-valley-bank-got-into-trouble/> [<https://perma.cc/K4PD-XBCC>].

284. Chipolina, *supra* note 180 (quoting Dante Disparte).

285. Koning, *supra* note 283; *see also* Chipolina, *supra* note 282 (quoting Ram Ahluwalia’s comment that “the USDC stablecoin – and by extension the rest of the digital asset market – was a beneficiary to US regulators bailing out SVB depositors”); Kadhim Shubber, *SVB’s Biggest Customers, Revealed. Kinda.*, FIN. TIMES (May 25, 2023), <https://www.ft.com/content/796d732f-e6d4-40c6-b27b-0f235f9c74fd> [<https://perma.cc/F38N-4UBR>] (reporting that FDIC records “indicate that Circle, the stablecoin issuer, was the biggest depositor at SVB”).

286. Chipolina, *supra* note 180 (“[C]rypto’s real Cuban missile crisis was USDC breaking its peg” which revealed the dangers of “un-stable stablecoins in a time of acute pressure”); Chipolina, *supra* note 282 (quoting Ilan Solot, who said that the crypto industry’s “weakest feature remains its links to regulated banking”); *see also supra* notes 46–48 and accompanying text (explaining that stablecoins provide the primary link between crypto markets and traditional financial markets because they enable holders to convert fiat currencies into tokens with ostensibly “stable” values that can be traded on crypto platforms).

C. FDIC-Insured Banks Are Seeking to Develop New Payment Systems That Use Stablecoins and Tokenized Deposits.

In addition to stablecoins created by crypto firms, several FDIC-insured banks have launched initiatives to develop new payment technologies that use stablecoins and tokenized deposits. In February 2022, Silvergate Bank purchased the Diem stablecoin project from Facebook (Meta). Silvergate said that it planned to issue stablecoins that would be accepted as “tokenized dollars” by retail sellers of goods and services.²⁸⁷ However, Silvergate suspended work on its stablecoin project in January 2023, and the future of that project was placed in great doubt when Silvergate adopted its voluntary liquidation plan in March 2023.²⁸⁸

New York Community Bank (NYCB) and eight other FDIC-insured banks established a consortium to issue the USDF stablecoin. The USDF stablecoin operates on the Provenance blockchain created by Figure Technologies. USDF stablecoins function as “tokenized deposits” and are used to settle transactions among participating banks and their customers.²⁸⁹ As indicated above, tokenized deposits are digital assets that represent existing bank deposits.²⁹⁰

JPMC created a proprietary stablecoin called JPM Coin. Like the USDF stablecoin, JPM Coin operates on a proprietary digital ledger network (permissioned blockchain), which currently provides services to JPMC’s institutional clients and could potentially be expanded to include other

287. John Adams, *What’s Still Missing from Crypto Payments?*, AM. BANKER (Sept. 15, 2022, 4:00 PM), <https://www.americanbanker.com/payments/news/whats-still-missing-from-crypto-payments> [https://perma.cc/25G9-LCY2]; Penny Crosman, *The Road Ahead for Meta’s Diem Under Silvergate Bank’s Ownership*, AM. BANKER (Feb. 7, 2022, 9:00 PM), <https://www.americanbanker.com/news/the-road-ahead-for-metas-diem-under-silvergate-banks-ownership> [https://perma.cc/Z7CY-9QNG].

288. Nikou Asgari & Joshua Franklin, *Silvergate Shares Tumble as Crypto Bank Reveals \$8.1bn Fall in Deposits*, FIN. TIMES (Jan. 5, 2023), <https://www.ft.com/content/69cd8629-278d-4cd5-a3e7-96d2f6c85f34> [https://perma.cc/8DTQ-ZPEP] (reporting that Silvergate suspended work on its stablecoin project); Berry, *supra* note 231 (“Silvergate said it is considering how to resolve claims and preserve the value of its assets including its proprietary technology and tax assets [following its adoption of a voluntary liquidation plan].”).

289. Crosman, *supra* note 175; Penny Crosman, *Bank Stablecoin Consortium USDF Gets a CEO, Grows to 9 Members*, AM. BANKER (July 6, 2022, 11:10 AM), <https://www.americanbanker.com/news/bank-stablecoin-consortium-usdf-gets-a-ceo-grows-to-9-members> [https://perma.cc/KF59-JBX2]; see also Cocheo, *supra* note 12 (explaining that USDF’s stablecoins are “tokenized deposits”).

290. See *supra* note 12 and accompanying text; Rod Garratt, Michael Lee, Antoine Martin & Joseph Torregrossa, *The Future of Payments Is Not Stablecoins*, LIBERTY ST. ECON. (Feb. 7, 2022), <https://libertystreeteconomics.newyorkfed.org/2022/02/the-future-of-payments-is-not-stablecoins/> [https://perma.cc/LFF5-TFTG] (explaining that “tokenized deposits” are “digital assets” representing bank deposits that can “circulate on a [distributed ledger technology] platform”).

banks and their customers.²⁹¹ JPM Coins represent tokenized deposits held by participating institutional clients at JPMC.²⁹²

It is not clear whether the foregoing bank stablecoin initiatives will produce successful large-scale payment networks. When the OCC approved NYCB's acquisition of Flagstar Bank in October 2022, NYCB agreed to apply for the OCC's permission to retain its ownership stake in the USDF stablecoin consortium, and NYCB also agreed to divest its stake within two years if it did not obtain the OCC's permission.²⁹³ Circle, which issues the USDC stablecoin, has not been successful in its efforts to obtain a national bank charter from the OCC.²⁹⁴ In December 2022, Circle abandoned its planned public offering of stock (through a merger with a special-purpose acquisition company) after the SEC did not allow its offering prospectus to become effective.²⁹⁵ The OCC's and SEC's actions regarding NYCB and Circle indicate that federal authorities are not willing to allow FDIC-insured banks to establish proprietary stablecoin networks until federal agencies reach a consensus on how stablecoins should be regulated.

It seems more likely that federal agencies will allow tokenized deposits of FDIC-insured banks to be used on permissioned ledgers established by networks of commercial banks and central banks. The safety and reliability of tokenized bank deposits would be assured by the laws and regulations

291. Penny Crosman, *Can JPMorgan Chase's JPM Coin Knock Off Ripple and Swift?*, AM. BANKER (Feb. 14, 2019, 2:58 PM), <https://www.americanbanker.com/news/can-jpmorgan-chases-jpm-coin-knock-off-ripple-and-swift> [https://perma.cc/EZ2Q-TT6R].

292. Eddie Mitchell, *What Is JPM Coin and How Do You Buy It?*, BITCOIN MKT. J. (Jan. 10, 2021, 8:00 AM), <https://www.bitcoinmarketjournal.com/jpm-coin/> [https://perma.cc/Z9X7-3WRE]; *About Coin Systems, ONYX BY J.P.MORGAN*, <https://www.jpmorgan.com/onyx/coin-system.htm> [https://perma.cc/6PXK-7QXG].

293. Yizhu Wang, *OCC Hands Down Conditions Linked to Crypto-Assets in NYCB-Flagstar Deal Approval*, S&P GLOB. MKT. INTEL. (Nov. 2, 2022), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/occ-hands-down-conditions-linked-to-crypto-assets-in-nycb-flagstar-deal-approval-72743926> [https://perma.cc/F7HW-E6RM]; see also Allissa Kline, *One Approval Down, One to Go for New York Community-Flagstar Deal*, AM. BANKER (Oct. 28, 2022, 1:48 PM), <https://www.americanbanker.com/news/one-approval-down-one-to-go-for-new-york-community-flagstar-deal> [https://perma.cc/B3WK-YBNK] (discussing the OCC's approval of the Flagstar acquisition).

294. Circle Internet Fin. Pub. Ltd. Co., Amendment No. 7 to Form S-4 Registration Statement 48 (Nov. 14, 2022) [hereinafter Circle S-4 Amendment No. 7], <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001876042/7cd4d644-9847-4931-bb98-61514624e796.pdf> [https://perma.cc/3HY9-LZQS] ("We announced plans to become a national bank . . . [by obtaining] a U.S. national bank charter . . . Given the unique nature of our core business of issuing and operating Circle stablecoins and related blockchain-based transaction services, we anticipate the bank charter pursuit will require extensive effort and time, and may ultimately be unsuccessful.").

295. Paul Vigna, *Stablecoin Firm Circle Internet Halts SPAC Attempt*, WALL ST. J., Dec. 6, 2022, at B1 (reporting that Circle ended its "attempt to go public though a special-purpose-acquisition merger" because the SEC did not declare its prospectus effective); see also Dave Michaels & Peter Rudegeair, *SEC Stymies Crypto-Firm Listings*, WALL ST. J., Jan. 25, 2023, at A1 ("Increased scrutiny from the [SEC] has derailed [attempts by Circle and other crypto firms] to go public this past year as financial distress and failures spread across the volatile industry.").

governing traditional bank deposits, including federal deposit insurance and other elements of the federal safety net for banks.²⁹⁶ Tokenized bank deposits would be significantly safer and more reliable than stablecoins issued by nonbanks because nonbanks are not regulated under federal banking laws and are not protected by the federal safety net for banks.²⁹⁷

In November 2022, the Federal Reserve Bank of New York (New York Fed) announced that it would conduct a “proof of concept” study along with ten large U.S. financial institutions. That study would examine the feasibility of using digital ledger technology to create a “regulated liability network,” which would perform instantaneous settlements of payments between financial institutions by using tokenized bank deposits and central bank reserves.²⁹⁸ The New York Fed’s study is one of a series of initiatives undertaken by the Fed to determine whether a wholesale central bank digital currency (CBDC) could expedite the processing of large-volume payments between financial institutions, central banks, and other entities.²⁹⁹

A group of senior technology executives at large U.S. and foreign banks issued a “Regulated Liability Network” (RLN) proposal on the same day that the New York Fed announced its study. The proposed RLN would operate a digital ledger for a network of central banks, commercial banks, and (potentially) regulated nonbanks that provide payment services. RLN would be a regulated financial market utility and would perform instantaneous transfers of funds among its member institutions by using tokenized bank deposits, central bank reserves, and (potentially) stablecoins issued by regulated nonbanks. RLN would begin with large-volume wholesale payments and, if successful, could potentially be expanded to include retail payments.³⁰⁰

296. See *infra* notes 375–77, 398–403 and accompanying text (discussing the regulations governing deposits held by FDIC-insured banks and the protections provided for those deposits by the federal safety net for banks).

297. Cocheo, *supra* note 12; Garratt et al., *supra* note 290.

298. *Facilitating Wholesale Digital Asset Settlement*, FED. RSRV. BANK N.Y., <https://www.newyorkfed.org/aboutthefed/nyic/facilitating-wholesale-digital-asset-settlement> [<https://perma.cc/N4Q8-C8DL>]; Martin Young, *US CBDC Proof of Concept Sees Big Banks Team Up with Federal Reserve*, BEINCRYPTO (Nov. 16, 2022, 5:56 PM), <https://beincrypto.com/us-cbdc-proof-of-concept-sees-big-banks-team-up-with-federal-reserve/> [<https://perma.cc/C72Q-TJ54>].

299. John Adams, *New York Fed Advances Tests of CBDCs for Cross-Border Payments*, AM. BANKER (Nov. 21, 2022, 10:11 AM), <https://www.americanbanker.com/payments/news/new-york-fed-advances-tests-of-cbdcs-for-cross-border-payments> [<https://perma.cc/Z7WA-GZNX>]; see also Kyle Campbell, *N.Y. Fed: CBDC Could Make Cross-Border Settlements Faster, Safer, More Efficient*, AM. BANKER (Nov. 4, 2022, 12:25 PM), <https://www.americanbanker.com/news/ny-fed-cbdc-could-make-cross-border-settlements-faster-safer-more-efficient> [<https://perma.cc/3QTE-RKNR>] (“[A] wholesale CBDC would be used for payment clearing and settlement between banks, governments, official institutions and nonbank financial companies.”).

300. Penny Crosman, *Bankers Design a New Blockchain that Works Like Bitcoin – but It’s Regulated*, AM. BANKER (Nov. 28, 2022, 3:52 PM), <https://www.americanbanker.com/news/bankers-design-a-new-blockchain-that-works-like-bitcoin-but-its-regulated>.

It is not yet clear whether the distributed ledger networks envisioned by the foregoing projects would be superior to existing payment technologies. At present, permissionless blockchains that rely on stablecoins and other cryptocurrencies to execute payment transactions are too slow, too fragmented, too unreliable, and too costly to be feasible for general commercial and consumer payments.³⁰¹ It is conceivable, however, that permissioned ledgers could be developed with the necessary scale, speed, reliability, and efficiency to compete with existing payment systems, particularly for large-value wholesale payments. Given the number of ongoing experiments with stablecoins, tokenized deposits, and CBDCs, it would be prudent for federal agencies to plan for the possibility that stablecoins and tokenized deposits could become widely-accepted payment instruments for wholesale (and possibly retail) transactions.³⁰²

In addition to uncertainties about the future use of stablecoins and tokenized deposits, there are active debates over the merits of CBDCs and the question of whether CBDCs should be wholesale or retail in nature. As indicated above, wholesale CBDCs could be used to facilitate instantaneous, large-volume payments among regulated financial institutions and central banks that are members of permissioned networks. Transfers of central bank reserves in the form of wholesale CBDCs would ensure the finality of interbank payments made on such networks.³⁰³ In contrast, retail CBDCs would be made available to individuals and nonfinancial businesses, either directly by providing them with central bank accounts or indirectly by giving them access to CBDCs through regulated financial intermediaries.³⁰⁴

In March 2023, Under Secretary of the Treasury Nellie Liang announced the formation of an interagency working group to consider potential options for creating a U.S. CBDC. She explained that “U.S. policymakers are

design-a-new-blockchain-that-works-like-bitcoin-but-its-regulated [https://perma.cc/76NG-L82E]; see also REGULATED LIABILITY NETWORK, DIGITAL SOVEREIGN CURRENCY (2022), https://regulatedliabilitynetwork.org/wp-content/uploads/2022/11/The-Regulated-Liability-Network-Whitepaper.pdf [https://perma.cc/KJW3-K7E5] (presenting the RLN proposal).

301. Adachi et al., *supra* note 41; BIS 2022 ANNUAL REPORT, *supra* note 9, at 75–89; Frederic Boissay, Giulio Cornelli, Sebastian Doerr & Jon Frost, *Blockchain Scalability and the Fragmentation of Crypto*, 56 BIS BULL. 1 (2022), https://www.bis.org/pub/bisbull56.pdf [https://perma.cc/M79H-4MR3]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 4, 8–13, 25–26, 40–45, 66–68, 72–73.

302. BIS 2022 ANNUAL REPORT, *supra* note 9, at 89–103; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 16–18, 20, 114–20; ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 259–61; Wilmarth, Treasury Comment Letter, *supra* note 21, at 8; see also Frankenfield, *supra* note 32 (discussing the differences between permissionless and permissioned distributed ledgers).

303. BIS 2022 ANNUAL REPORT, *supra* note 9, at 93–98, 101–02; U.S. DEP’T OF THE TREASURY, THE FUTURE OF MONEY AND PAYMENTS, at 4–10, 14–21, 31–32, 40 (2022) [hereinafter TREASURY MONEY AND PAYMENTS REPORT], https://home.treasury.gov/system/files/136/Future-of-Money-and-Payments.pdf [https://perma.cc/DY86-83TQ].

304. BIS 2022 ANNUAL REPORT, *supra* note 9, at 98–102; TREASURY MONEY AND PAYMENTS REPORT, *supra* note 303, at 4–8, 11–16, 19–24, 37–38.

evaluating whether a U.S. CBDC is in the national interest.”³⁰⁵ She also stated that policymakers have not reached any conclusion on “whether to have a wholesale CBDC, retail CBDC, or both.”³⁰⁶

A detailed evaluation of the feasibility, advantages, and disadvantages of wholesale and retail CBDCs is beyond the scope of this article. It seems likely that the Fed would introduce a wholesale CBDC before it adopts a retail CBDC. The New York Fed’s experiments with options for CBDCs have “focus[ed] mostly on wholesale CBDCs.”³⁰⁷ As discussed above, the New York Fed and a group of large financial institutions are exploring a “regulated liability network” concept for handling large-value wholesale payments, an approach that could potentially use a wholesale CBDC to ensure the finality of interbank payments.³⁰⁸ Proposals involving wholesale CBDCs are “less difficult to execute on both technological and political grounds” because they do not require major changes to the existing U.S. financial system.³⁰⁹

In contrast, adopting a retail CBDC would make very significant changes to the U.S. financial system by enabling individuals and nonfinancial businesses to conduct financial transactions by using a Fed-issued CBDC instead of bank deposits and bank credit. A retail CBDC would pose a number of significant challenges, including (i) protecting private financial data from unwarranted government surveillance; (ii) dealing with the likely migration of deposits from banks to the Fed, thereby reducing the banking system’s ability to provide credit to the economy; and (iii) requiring the Fed to serve as the primary provider of deposit, credit, and payment services to the private sector, even if the Fed chooses to provide those services indirectly by subcontracting with financial intermediaries.³¹⁰

305. Nellie Liang, Under Sec’y of the Treasury, Remarks During Workshop on “Next Steps to the Future of Money and Payments” (Mar. 1, 2023) [hereinafter Liang Speech], <https://home.treasury.gov/news/press-releases/jy1314> [<https://perma.cc/WJQ3-MF9V>]; see also Christopher Condon, *US Treasury to Lead New Working Group Looking at Digital Dollar*, BLOOMBERG (Mar. 1, 2023, 12:35 PM), <https://www.bloomberg.com/news/articles/2023-03-01/us-treasury-to-lead-new-working-group-looking-at-digital-dollar#xj4y7vzkg> [<https://perma.cc/5YMC-88FS>] (reporting that Liang’s speech “reiterat[ed] that the Treasury and Fed are not yet convinced a US CBDC is needed”).

306. Liang Speech, *supra* note 305.

307. Adams, *supra* note 299.

308. See *supra* notes 298–300 and accompanying text.

309. Adams, *supra* note 299; see also Bank Pol’y Inst., Comment Letter on “Money and Payments: The U.S. Dollar in the Age of Digital Transformation” 2 n.5 (May 20, 2022), <https://bpi.com/wp-content/uploads/2022/05/BPI-Files-Comments-in-Response-to-Federal-Reserve-CBDC-Discussion-Paper.pdf> [<https://perma.cc/7USK-UKYL>] (“A wholesale account-based CBDC that was available only to depository institutions, which can already establish accounts at the Federal Reserve, would be little different from the current system.”).

310. For discussions of the potential risks and challenges of retail CBDCs, see Sebastian Infante, Kyungmin Kim, Anna Orlik, André F. Silva & Robert J. Tetlow, *The Macroeconomics of CBDC: A*

The Fed has stated that it “does not intend to proceed with issuance of a CBDC without clear support from the executive branch and from Congress, ideally in the form of a specific authorizing law.”³¹¹ Republican members of Congress and leading banking trade groups have opposed or strongly criticized proposals for a retail CBDC.³¹² In view of that opposition, it is doubtful whether the Fed will issue a retail CBDC in the near term.

Whether or not the United States adopts a wholesale or retail CBDC, it seems likely that tokenized bank deposits and stablecoins will be used for making wholesale payments on digital networks that include banks and central banks. Policymakers must therefore develop a framework for regulating stablecoins and tokenized deposits that will protect the safety and stability of our banking system and avoid undue risks to our financial markets, economy, and society. Otherwise, stablecoins and tokenized

Review of the Literature 3–7, 43–46 (Bd. of Governors of the Fed. Rsr. Sys., Working Paper No. 2022-076), <https://www.federalreserve.gov/econres/feds/files/2022076pap.pdf> [<https://perma.cc/QH96-AM92>] (discussing concerns that a retail CBDC would disintermediate banks and cause a reduction in bank credit); MARC LABONTE & REBECCA M. NELSON, CONG. RSCH. SERV., R46850, CENTRAL BANK DIGITAL CURRENCIES: POLICY ISSUES 17–18, 23–25 (2022), <https://sgp.fas.org/crs/misc/R46850.pdf> [<https://perma.cc/HFS9-Q9T4>] (describing concerns that a retail CBDC would disintermediate banks, reduce bank credit, erode financial privacy, and involve the Fed in allocating credit and providing financial services to the general public, thereby undermining its political independence); David Waugh, Opinion, *Fed’s Cryptocurrency Pilot Opens Door for Dangerous Retail Option*, HILL (Dec. 8, 2022, 1:00 PM), <https://thehill.com/opinion/finance/3767197-feds-cryptocurrency-pilot-opens-door-for-dangerous-retail-option/> [<https://perma.cc/63RL-MZYD>] (expressing the same concerns about a retail CBDC). For a comprehensive analysis of the potential advantages of providing private Fed accounts to individuals and nonfinancial businesses, which responds to many of the foregoing concerns, see John Crawford, Lev Menand & Morgan Ricks, *Fedaccounts: Digital Dollars*, 89 GEO. WASH. L. REV. 113, 119–20, 142–50, 160–61, 167–72 (2021).

311. BD. OF GOVERNORS OF THE FED. RSRV. SYS., MONEY AND PAYMENTS: THE U.S. DOLLAR IN THE AGE OF DIGITAL TRANSFORMATION 3 (2022), <https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf> [<https://perma.cc/ULW2-V2UZ>]; *see also* Liang Speech, *supra* note 305 (“The Fed has also emphasized that it would only issue a CBDC with the support of the executive branch and Congress, and more broadly the public.”).

312. In February 2023, Congressman Tom Emmer (R-MN) and several other Republican members of Congress introduced a bill that would prohibit the Fed from issuing a retail CBDC. *See* Claire Williams, *Emmer Introduces Bill to Bar Fed from Issuing CBDC to Consumers*, AM. BANKER (Feb. 22, 2023, 4:34 PM), <https://www.americanbanker.com/news/emmer-introduces-bill-to-bar-fed-from-issuing-cbdc-to-consumers> [<https://perma.cc/UXN7-567D>]. Congressman Emmer and Senator Ted Cruz (R-TX) proposed similar legislation in 2022. Press Release, Rep. Tom Emmer, Emmer Introduces Legislation to Prevent Unilateral Fed Control of a U.S. Digital Currency (Jan. 12, 2022), https://emmer.house.gov/press-releases?ContentRecord_id=1DC88783-A271-4F74-851D-5D234364DCEF [<https://perma.cc/5LGE-Y8BW>]; Press Release, Rep. Tom Emmer, Sen. Cruz Introduces Companion Legislation to Rep. Emmer’s Bill Prohibiting Unilateral Fed Control of a U.S. Digital Currency (Mar. 30, 2022), https://emmer.house.gov/press-releases?ContentRecord_id=F27590F0-8B13-4841-9EEF-3E60A42AB0F5 [<https://perma.cc/25SE-727P>]. In May 2022, a coalition of leading bank trade associations strongly criticized proposals for a retail CBDC. Press Release, Bank Pol’y Inst., BPI and Coalition of Financial Trades Submit Statement to House Financial Services Committee on CBDCs (May 25, 2022), <https://bpi.com/bpi-and-coalition-of-financial-trades-submit-statement-to-house-financial-services-committee-on-cbdcs/> [<https://perma.cc/H7UQ-2QD6>] (“The risks associated with issuing a [retail] CBDC are . . . real and likely to undermine any possible benefit that a CBDC would have.”).

deposits issued by nonbanks and uninsured depository institutions are likely to promote hazardous shadow banking ventures, as discussed below in Part III.C. For the reasons stated in that section, Congress should require all providers of stablecoins and tokenized deposits to be FDIC-insured banks.

III. POLICYMAKERS SHOULD ADOPT A THREE-PART PLAN TO PROTECT INVESTORS AND OUR BANKING SYSTEM FROM THE CRYPTO INDUSTRY.

The crypto boom and crash have demonstrated that fluctuating-value cryptocurrencies and stablecoins pose great dangers to investors and threaten the safety and stability of our banking system. Congress and federal regulators should respond to those dangers by adopting three measures. First, the SEC should be recognized as the primary regulator of most fluctuating-value cryptocurrencies. Second, federal bank regulators should prohibit FDIC-insured banks and their affiliates from investing and trading in fluctuating-value cryptocurrencies for their own accounts or on behalf of others. In addition, federal bank regulators should bar FDIC-insured banks and their affiliates from providing financial services to crypto firms unless those firms are registered with and regulated by the SEC and/or the CFTC. Third, Congress should require all issuers and distributors of stablecoins and tokenized deposits to be FDIC-insured banks. The foregoing measures would protect investors and greatly reduce the threats that cryptocurrencies currently pose to our banking system.

A. Policymakers Should Affirm the SEC's Role as the Primary Federal Regulator of Most Fluctuating-Value Cryptocurrencies.

There is an ongoing policy debate over which federal agency should take the lead in regulating crypto-assets.³¹³ The SEC and CFTC have taken enforcement actions against issuers of fluctuating-value cryptocurrencies based on their respective authorities as regulators of securities and

313. Allen Testimony, *supra* note 110, at 14–16; Kate Berry, *CFTC's Behnam Urges Lawmakers to Build on Stabenow-Boozman Crypto Bill*, AM. BANKER (Dec. 1, 2022, 4:22 PM), <https://www.americanbanker.com/news/cftcs-behnams-urges-lawmakers-to-build-on-stabenow-boozman-crypto-bill> [<https://perma.cc/GM5W-F9ZA>]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 86–94; Robert Kuttner, *Will Congress Let Crypto Pick Its Regulator?*, AM. PROSPECT (Aug. 16, 2022), <https://prospect.org/economy/will-congress-let-crypto-pick-its-regulator/> [<https://perma.cc/ZYD6-3FDC>]; Malathi Nayak, Chris Dolmetsch & Allyson Versprille, *Fight to Regulate Crypto at Crossroads as Ripple Ruling Looms*, BLOOMBERG (Jan. 17, 2023, 7:00 AM), <https://www.bloomberg.com/news/articles/2023-01-17/ftx-collapse-puts-focus-on-ripple-case-for-who-should-regulate-crypto> [<https://perma.cc/264T-CC7B>]; see generally Yuliya Guseva & Irena Hutton, *Digital Asset Innovations and Regulatory Fragmentation: The SEC Versus the CFTC*, 64 B.C. L. REV. (forthcoming 2023), <https://ssrn.com/abstract=4249503> [<https://perma.cc/Z6YX-2AY6>] (comparing the policies of the SEC and the CFTC for regulating crypto-related activities).

commodities.³¹⁴ In 2022, Senators Kirsten Gillibrand (D-NY), Cynthia Lummis (R-WY), Deborah Stabenow (D-MI), and John Boozman (R-AR) introduced bills that would have established the CFTC as the primary regulator of the crypto industry. Their bills would have designated Bitcoin, Ethereum, and (potentially) many other fluctuating-value cryptocurrencies as digital commodities, thereby placing them under the CFTC's jurisdiction.³¹⁵

In contrast, SEC Chair Gary Gensler has argued that most cryptocurrencies are “securities” and are therefore subject to the SEC’s regulatory oversight under existing federal securities laws.³¹⁶ In November 2022, a federal district court in New Hampshire strengthened Gensler’s position by holding that a blockchain token was a “security.”³¹⁷ Several federal district courts previously held that sales of digital coins to investors were offerings of “investment contracts” that were “securities” under the Supreme Court’s “Howey test.”³¹⁸ In December 2022, the SEC alleged that FTX sold FTT tokens that were “securities” because (i) FTX “marketed [FTT] as an investment that would appreciate in value” and (ii) “FTT investors had a reasonable expectation of profiting from FTX’s efforts

314. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 93–95; Guseva & Hutton, *supra* note 313 (manuscript at 17–18, 21–28); *see also supra* notes 40, 52, 122, 133–34 and accompanying text (discussing civil enforcement suits filed by the CFTC and SEC against Binance, Coinbase, FTX, and their affiliates).

315. Allen Testimony, *supra* note 110, at 15–16; Berry, *supra* note 313; Paul Kiernan, *Crypto Agenda in D.C. Faces Setbacks*, WALL ST. J., Nov. 15, 2022, at A2 [hereinafter Kiernan, *Crypto Agenda*]; Paul Kiernan, *FTX’s Collapse Pressures SEC Over Strategy*, WALL ST. J., Dec. 23, 2022, at B8 [hereinafter Kiernan, *SEC Strategy*]; Kuttner, *supra* note 313.

316. Kiernan, *SEC Strategy*, *supra* note 315; Ephrat Livni & Matthew Goldstein, *Even After FTX, S.E.C. Chair Sees No Need for New Crypto Laws*, N.Y. TIMES (Dec. 22, 2022), <https://www.nytimes.com/2022/12/22/business/gary-gensler-sec-crypto.html> [<https://perma.cc/MH4W-V73D>].

317. SEC v. LBRY, Inc., No. 21-cv-260-PB, 2022 WL 16744741, at *1, *6 (D.N.H. Nov. 7, 2022) (holding that a “blockchain token called LBC” was a “security” under the Securities Act of 1933 because LBRY’s business plan and representations to investors caused “purchasers of LBC to expect that they too would profit from their holdings of LBC as a result of LBRY’s assiduous efforts”); *see also* Helen Gugel, Amy J. Longo, Mark Cianci & Justin Kaufman, SEC v. LBRY: Examining the Implications of the SEC’s Latest Victory for Cryptocurrency and Digital Asset Markets, WESTLAW TODAY (Dec. 19, 2022), 2022 PRINDBRF 0566 (“[The LBRY decision is] consistent with the view of SEC Chairman Gary Gensler . . . [that] the vast majority of digital asset tokens are securities.”).

318. Wilmarth, *Stablecoins*, *supra* note 159, at 4–5, 17 nn.30 & 33 (citing federal district court decisions that applied the “investment contract” test established by *SEC v. W.J. Howey & Co.*, 328 U.S. 293 (1946), in determining that offerings of digital coins were offerings of “securities”); *see also* Guseva & Hutton, *supra* note 313 (manuscript at 25–26) (discussing the “Howey test”); Phillips, *supra* note 145 (same). In *Howey*, the Supreme Court held that an “investment contract” is a “scheme [that] involves an investment of money in a common enterprise with profits to come solely from the efforts of others.” 328 U.S. at 301.

to deploy investor funds to create a use for FTT and bring demand and value to their common enterprise.”³¹⁹

Crypto firms that pay interest or other compensation to investors for lending their crypto-assets to other persons are likely to be classified as issuers of promissory notes that are “securities” under the Supreme Court’s “Reves test.”³²⁰ In January 2023, the SEC sued Genesis and Gemini for unlawfully selling unregistered securities to retail investors through their “Gemini Earn” program.³²¹ The Gemini Earn program offered to pay interest rates as high as 8% to Gemini’s customers if they loaned their crypto-assets to Genesis.³²² The SEC alleged that the agreements made by Genesis and Gemini with investors constituted “securities” under both the *Reves* test and the *Howey* test.³²³

In February 2023, the SEC sued Do Kwon and Terraform for violating federal securities laws by fraudulently selling unregistered securities, including Terra stablecoins and Luna tokens. The SEC alleged that Do Kwon and Terraform marketed Terra stablecoins as “yield bearing” investments and promised to pay investors “rates of return of 19–20%” if they loaned their stablecoins to other persons through the Anchor

319. SEC Ellison Complaint, *supra* note 120, ¶¶ 85, 90; *see id.*, ¶¶ 10, 75–90, 117, 120 (alleging that the FTT tokens sold to investors by FTX were “securities”); *see also supra* notes 117–22 and accompanying text (discussing FTX’s creation of and trading in FTT tokens).

320. Wilmarth, *Stablecoins*, *supra* note 159, at 4–5, 17 nn.31–32 & 36 (discussing the test established in *Reves v. Ernst & Young*, 494 U.S. 56 (1990), for determining whether promissory notes are “securities”); *see also* Guseva & Hutton, *supra* note 313 (manuscript at 26–27) (discussing the “Reves test” and its application to crypto lending products); Phillips, *supra* note 145 (same). In *Reves*, the Supreme Court held that every promissory “note” is presumed to be a “security.” 494 U.S. at 65. That presumption can be rebutted based on a consideration of the following four factors: (1) the “motivations” of the seller and buyer, including whether “the seller’s purpose is to raise money for the general use of a business enterprise or to finance substantial investments and the buyer is interested primarily in the profit the note is expected to generate,” or, in contrast, whether “the note is exchanged to facilitate the purchase and sale of a minor asset or consumer good . . . or to advance some other commercial or consumer purpose”; (2) whether the “plan of distribution” for the note indicates that it is “an instrument in which there is ‘common trading for speculation or investment’”; (3) whether “the reasonable expectations of the investing public” indicate that the note is a “security”; and (4) whether “the existence of another regulatory scheme significantly reduces the risk of the instrument, thereby rendering application of the Securities Acts unnecessary.” *Id.* at 65–67 (citations omitted).

321. Press Release, SEC, SEC Charges Genesis and Gemini for the Unregistered Offer and Sale of Crypto Asset Securities Through the Gemini Earn Lending Program (Jan. 12, 2023), <https://www.sec.gov/news/press-release/2023-7> [<https://perma.cc/H3DH-KLNW>]; Dave Michaels & Vicky Ge Huang, *SEC Sues Crypto Firms over Loans*, WALL ST. J., Jan. 13, 2023, at B1; Stefania Palma & Joshua Oliver, *SEC Sues Gemini and Genesis over Crypto Asset-Lending Program*, FIN. TIMES (Jan. 12, 2023), <https://www.ft.com/content/5a431910-6e2b-43c4-a587-6e89eac02205> [<https://perma.cc/C5WV-EDMA>].

322. *See supra* notes 135–41 and accompanying text (describing the Gemini Earn program and its collapse).

323. SEC Genesis-Gemini Complaint, *supra* note 135, ¶¶ 44–67.

Protocol.³²⁴ In addition, holders of Terra stablecoins could exchange their coins for Luna tokens, which Do Kwon and Terraform advertised as “an investment that would increase in value.”³²⁵

The SEC’s staff has acknowledged that Bitcoin and some other fluctuating-value cryptocurrencies would not meet the *Howey* test for status as “securities” if their ownership and governance structures are truly decentralized and the returns received by their investors do not depend on the efforts of third-party managers or promoters.³²⁶ However, many crypto platforms and networks that claim to be “decentralized” are actually controlled by groups of large stakeholders.³²⁷ Accordingly, crypto-assets sold and traded by those entities would not be exempt from regulation under federal securities laws.³²⁸

324. SEC Terraform Complaint, *supra* note 91, ¶ 35; *see id.* ¶¶ 31–43, 69–84, 118–20 (describing Do Kwon’s and Terraform’s creation and marketing of Terra stablecoins); *see also supra* notes 90–94 (same); Press Release, SEC, SEC Charges Terraform and CEO Do Kwon with Defrauding Investors in Crypto Schemes (Feb. 16, 2023), <https://www.sec.gov/news/press-release/2023-32> [https://perma.cc/MJ74-L8ZU] (summarizing the SEC’s charges against Terraform and Do Kwon).

325. SEC Terraform Complaint, *supra* note 91, ¶ 50; *see id.* ¶¶ 31–34, 44–58, 104–20 (describing Do Kwon’s and Terraform’s creation and marketing of Luna tokens); *see also supra* notes 90–96 and accompanying text (discussing the creation, marketing, and collapse of Terra stablecoins and Luna tokens). Also in February 2023, the SEC filed an enforcement action alleging that Kraken’s “staking-as-a-service program” involved the unlawful sale of unregistered securities. Press Release, SEC, Kraken to Discontinue Unregistered Offer and Sale of Crypto Asset Staking-As-A-Service Program and Pay \$30 Million to Settle SEC Charges (Feb. 9, 2023), <https://www.sec.gov/news/press-release/2023-25> [https://perma.cc/PL3M-3DAN]. The SEC charged Kraken with selling unregistered “investment contracts” when Kraken agreed to pool crypto-assets held by investors and transfer those assets for “staking” with “blockchain validator[s]” while paying investors “advertised annual investment returns” as high as 21%. *Id.* Kraken settled the SEC’s charges by terminating its staking services for U.S. residents and paying \$30 million in civil penalties. *Id.*; Scott Chipolina & Stefania Palma, *Crypto Exchange Kraken Ends Staking Programme and Pays \$30mn in SEC Case*, FIN. TIMES (Feb. 9, 2023), <https://www.ft.com/content/77312c18-899f-4460-a858-fe5439373cb5> [https://perma.cc/ZF5V-RXUM]; Paul Kiernan, *SEC Steps Up Curbs on Crypto Industry with ‘Staking’ Pact*, WALL ST. J., Feb. 10, 2023, at B11; *see also supra* notes 40 & 52 (discussing civil enforcement actions filed by the SEC against Binance and Coinbase in June 2023).

326. In 2018, a senior SEC official stated that Bitcoin was not a “security” because its blockchain did not have a “central third party whose efforts are a key determining factor in the enterprise.” Consequently, Bitcoin did not constitute an “investment contract” under the *Howey* test, which “requires an investment of money in a common enterprise with an expectation of profit derived from the efforts of others.” William Hinman, Director, Div. of Corp. Fin., Digital Asset Transactions: When Howey Met Gary (Plastic), Remarks at the Yahoo Finance All Markets Summit: Crypto (June 14, 2018), <https://www.sec.gov/news/speech/speech-hinman-061418> [https://perma.cc/MY8E-C73H] (discussing the *Howey* test); *see also Framework for “Investment Contract” Analysis of Digital Assets*, SEC (Apr. 3, 2019), <https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets> [https://perma.cc/SY32-LWDE] (same).

327. For discussions of the centralized control arrangements that exist within many purportedly “decentralized” crypto platforms and networks, *see, e.g.*, Allen Testimony, *supra* note 110 at 2, 6, 9–10; Sirio Aramonte, Wenqian Huang & Andreas Schrimpf, *DeFi Risks and the Decentralisation Illusion*, in BANK FOR INT’L SETTLEMENTS, BIS QUARTERLY REVIEW DECEMBER 2021: INTERNATIONAL BANKING AND FINANCIAL MARKET DEVELOPMENTS 21, 27–29 (2021), https://www.bis.org/publ/qtrpdf/r_qt2112b.pdf [https://perma.cc/L9E4-WSDB]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 13, 41–44, 63–64, 72–73; TREASURY CRYPTO-ASSETS REPORT, *supra* note 10, at 10–12.

328. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 86–88, 93–94, 97–98, 116.

Federal regulators and policymakers should recognize the SEC as the primary regulator of most fluctuating-value cryptocurrencies because federal securities laws provide a superior regime for regulating those crypto-assets.³²⁹ Federal securities laws provide significantly stronger disclosure requirements, broader antifraud provisions, and more effective safeguards for retail investors, compared with the Commodity Exchange Act and the CFTC's regulations thereunder.³³⁰ For example, the CFTC does not have authority to regulate sales of commodities on spot markets except to prevent fraud and market manipulation.³³¹ As a result, “spot markets for crypto-assets that are not securities provide relatively fewer protections for retail investors compared to other financial markets that have significant retail participation.”³³² Similarly, the CFTC has very limited powers to regulate crypto exchanges that conduct spot trading if they do not offer futures or derivatives products to investors.³³³ In contrast, the SEC has a statutory mandate to protect investors and broad authority to regulate securities exchanges as well as broker-dealers who conduct transactions on those exchanges.³³⁴

For most of its history, the CFTC has been a small, underfunded agency that has been strongly influenced by the industries it regulates. Consequently, the CFTC has compiled a much weaker enforcement record

329. Allen Testimony, *supra* note 110, at 14–20; Phillips, *supra* note 145; Reiners Testimony, *supra* note 31, at 23–28.

330. Allen Testimony, *supra* note 110, at 14–20; DENNIS M. KELLEHER, BETTER MARKETS, FACT SHEET: SETTING THE RECORD STRAIGHT ON CRYPTO, FTX AND SAM BANKMAN-FRIED, AND FINANCIAL REGULATORS 2–4 (2022), https://bettermarkets.org/wp-content/uploads/2022/11/Better_Markets_FTX_FactSheet.pdf [https://perma.cc/5DKG-4RQU]; Reiners Testimony, *supra* note 31, at 11–14, 20–28; *see also* Kuttner, *supra* note 313 (opposing the Gillibrand-Lummis bill because it would benefit the crypto industry by “taking regulatory jurisdiction away from the stronger SEC and giving it to the weaker CFTC”).

331. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 88–90, 112–14; Guseva & Hutton, *supra* note 313 (manuscript at 22–23); Reiners Testimony, *supra* note 31, at 21–23.

332. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 113.

333. Guseva & Hutton, *supra* note 313 (manuscript at 23–24); Reiners Testimony, *supra* note 31, at 22–23.

334. Allen Testimony, *supra* note 110, at 15–16; Guseva & Hutton, *supra* note 313 (manuscript at 24–28); Reiners Testimony, *supra* note 31, at 26–27; *see also* Paul Clark, *Common-Sense Regulation of Crypto Is Needed to Instill Confidence*, AM. BANKER (Feb. 6, 2023, 10:09 AM), <https://www.americanbanker.com/opinion/common-sense-regulation-of-crypto-is-needed-to-instill-confidence> [https://perma.cc/PXM9-AYH2] (discussing the SEC’s rules governing securities brokers’ custody of their customers’ assets); SEC, FISCAL YEAR 2022 AGENCY FINANCIAL REPORT 6 (2022), <https://www.sec.gov/files/sec-2022-agency-financial-report.pdf> [https://perma.cc/674Z-SKR7] (“The SEC is responsible for overseeing the nation’s securities markets and certain primary participants, including broker-dealers, investment companies, investment advisers, clearing agencies, transfer agents, credit rating agencies, and securities exchanges.”). For examples of the SEC’s statutory mandate to protect investors, see 12 U.S.C. §§ 77b(b), 78c(f).

than the SEC.³³⁵ Between 2017 and 2021, the SEC brought more than three times as many crypto-related enforcement actions as the CFTC.³³⁶ The SEC also imposed crypto-related enforcement penalties that were significantly larger than the CFTC's penalties.³³⁷

In 2021 and 2022, FTX and other crypto firms conducted a massive lobbying campaign in support of proposed Senate bills that would have established the CFTC as the primary regulator of the crypto industry.³³⁸ FTX

335. Douglas S. Eakeley, Yuliya Guseva, Leo Choi & Katarina Gonzalez, *Crypto-Enforcement Around the World*, 94 S. CAL. L. REV. POSTSCRIPT 99, 117–27 (2021); *id.* at 117 (finding that the SEC has been “an exceptionally active enforcer in the digital-asset market,” having filed more than three times as many crypto-related enforcement actions as the CFTC between 2017 and 2020); Derek Fischer, *Dodd-Frank’s Failure to Address CFTC Oversight of Self-Regulatory Organization Rulemaking*, 115 COLUM. L. REV. 69, 70–71, 84–86, 92–97 (2015) (stating that the CFTC’s “regulation of the futures industry has been more laissez faire,” “more hands off,” and “consistently deferential,” compared with the SEC’s stronger regulation of the securities industry, due in part to “political and market pressure” on the CFTC as well as the CFTC’s “resource crunch”); KELLEHER, *supra* note 330 (stating that the SEC has a much stronger crypto-related enforcement record than the CFTC); Dennis M. Kelleher, *FTX’s Penetration of the CFTC by a Revolving Door Hiring Spree of Former CFTC Officials*, BETTER MKTS. (Dec. 26, 2022), <https://bettermarkets.org/newsroom/ftxs-penetration-of-the-cftc-by-a-revolving-door-hiring-spree-of-former-cftc-officials/> [<https://perma.cc/R8DM-YQWP>] (contending that the CFTC is “the weakest, least funded, easiest to penetrate, and most capturable regulator,” stating that CFTC Chair Rostin Behnam acted as “a key ally” of FTX, Alameda, and Sam Bankman-Fried, and pointing out that FTX and Alameda hired numerous former CFTC officials “to spearhead their CFTC influence and lobbying campaign”); Kuttner, *supra* note 313 (describing the CFTC as a “relatively weak and understaffed” agency that has “no proven capacity to regulate the kind of retail transactions and small-investor abuses that are typical of crypto”); Robin Wigglesworth, *We Need to Talk About the CFTC*, FIN. TIMES (Dec. 15, 2022), <https://www.ft.com/content/066a5e46-380c-4f51-b02c-4276d9a869a1> [<https://perma.cc/3PGW-3JBU>] (“[T]he CFTC itself is by a mile the most compromised regulatory agency when it comes to crypto in general, and FTX specifically.”); *id.* (criticizing the close relationships between multiple former CFTC officials and the crypto industry); WILMARTH, *TAMING THE MEGABANKS*, *supra* note 145, at 186–87, 189–92 (describing the successful campaign by the derivatives industry and its political allies that blocked the CFTC’s attempt to regulate over-the-counter derivatives in 1998).

336. Guseva & Hutton, *supra* note 313 (manuscript at 33–38) (stating that the SEC filed eighty-nine crypto-related enforcement actions between April 2017 and November 2021, compared with twenty-seven enforcement actions filed by the CFTC).

337. Eakeley et al., *supra* note 335, at 124–27 (stating that the SEC’s crypto-related enforcement penalties between 2017 and 2020 were “much more significant, with disgorgement being noticeably higher,” compared to the CFTC’s penalties).

338. KELLEHER, *supra* note 330; Kelleher, *supra* note 335; Kiernan, *Crypto Agenda*, *supra* note 315; Kuttner, *supra* note 313; see also Jesse Hamilton, Cheyenne Ligon & Elizabeth Napolitano, *Congress’ FTX Problem: 1 in 3 Members Got Cash from Crypto Exchange’s Bosses*, COINDESK (Jan. 17, 2023, 3:34 PM), <https://www.coindesk.com/policy/2023/01/17/congress-ftx-problem-1-in-3-members-got-cash-from-crypto-exchanges-bosses/> [<https://perma.cc/G6RH-MYVZ>] (reporting that more than one-third of members of Congress received political contributions from Sam Bankman-Fried and other senior executives of FTX and its affiliates during 2021 and 2022, with the total amount of those contributions exceeding \$70 million); Bob Van Voris, Ava Benny-Morrison, Laura Davison & Bill Allison, *Sam Bankman-Fried Prosecutors Allege Plot to Shape Crypto Policy*, L.A. TIMES (Feb. 23, 2023, 4:17 PM), <https://www.latimes.com/business/story/2023-02-23/bankman-fried-fraud-indictment-two-unnamed-co-conspirators> [<https://perma.cc/QCE9-QXKB>] (discussing allegations by federal prosecutors that Sam Bankman-Fried and his associates tried “to influence crypto policy in Washington” by making “more than 300 illegal political donations in the tens of millions of dollars, using straw donors

and other crypto firms viewed the CFTC as a “friendlier regulator” with a “light-touch” approach.³³⁹ The crypto industry’s vigorous and heavily-funded support of the CFTC, the CFTC’s lack of a strong mandate to protect investors, its relatively weak enforcement record, and its limited experience in regulating retail investment products provide persuasive reasons for recognizing the SEC as the primary regulator of most fluctuating-value cryptocurrencies.³⁴⁰ Congress must provide the SEC with sufficient resources to carry out that responsibility.³⁴¹

or corporate funds,” resulting in “the biggest infusion of illegal money into U.S. politics in decades”); Kenneth P. Vogel, Emily Flitter & David Yaffe-Bellany, *‘It Was Relentless’: Inside a Crypto Exchange’s Bid for Influence*, N.Y. TIMES, Nov. 23, 2022, at A1 (describing the high-pressure lobbying campaign conducted by FTX during 2021 and 2022); *supra* note 315 and accompanying text (discussing the bills introduced by Senators Gillibrand, Lummis, Stabenow, and Boozman).

339. Paul Kiernan, *FTX’s Fall Halts Push for Light Oversight*, WALL ST. J., Nov. 28, 2022, at A1; *see also* Reiners Testimony, *supra* note 31, at 21–22 (“[T]he CFTC has given the crypto industry most of what they have asked for. That is why the agency became the preferred regulator of the crypto industry.”).

340. Allen Testimony, *supra* note 110, at 15–16; Press Release, Dennis M. Kelleher, Better Mkts., No One Should Be Pushing FTX Endorsed Legislation Putting the Underfunded CFTC in Charge of the Crypto Industry Before Knowing the Facts (Nov. 21, 2022), <https://bettermarkets.org/newsroom/no-one-should-be-pushing-ftx-endorsed-legislation-putting-the-underfunded-cftc-in-charge-of-the-crypto-industry-before-knowing-the-facts/> [https://perma.cc/M6VT-9J3F]; Reiners Testimony, *supra* note 31, at 2–3, 11–14, 20–28; *see also* *supra* notes 329–39 (citing additional authorities supporting the view that the SEC should be the primary federal regulator of most fluctuating-value cryptocurrencies).

341. Lee Reiners has proposed that Congress should give the SEC “exclusive authority to regulate all aspects of the crypto industry” by enacting a “special definition” that would “recognize cryptocurrencies as securities” under federal securities laws. Reiners Testimony, *supra* note 31, at 23–24. I strongly support Mr. Reiners’s proposal for legislation that would designate the SEC as the exclusive federal regulator of fluctuating-value cryptocurrencies. However, I disagree with Mr. Reiners’s proposal to give the SEC exclusive regulatory authority over stablecoins. *See* Reiners Testimony, *supra* note 31, at 3, 32–33. For the reasons discussed below in Part III.C, I believe that stablecoins should be regulated as deposits under federal banking laws.

Joel Seligman has proposed that Congress should create a “new standalone [federal] agency” to regulate crypto-assets. Joel Seligman, *The Rise and Fall of Cryptocurrency: The Three Paths Forward*, 19 N.Y.U. J.L. & BUS. 93, 125 (2022). He contends that a single federal agency with a “focus” on crypto-assets would be preferable to our current “fragmented” regulatory structure. *Id.* at 127.

I agree with Professor Seligman that the divided jurisdictions of the SEC and CFTC create significant challenges for addressing the risks posed by fluctuating-value cryptocurrencies. I therefore strongly endorse proposals to merge the SEC and CFTC, which would create a unified federal agency with comprehensive authority over markets for nonbank financial products (including fluctuating-value cryptocurrencies). Such a unified agency would be comparable to the U.K.’s Financial Conduct Authority (FCA). *See* FIN. CONDUCT AUTH., ANNUAL REPORT AND ACCOUNTS 2021/22, at 14–15 (2022), <https://www.fca.org.uk/publication/annual-reports/2021-22.pdf> [https://perma.cc/D5V3-T2XA] (“[The FCA] regulate[s] the conduct of around 50,000 financial services firms in the UK . . . [to] protect consumers, support competition in financial services and maintain market integrity.”). Unfortunately, past proposals to merge the SEC and CFTC have failed, due in large part to political rivalries between Congress’s financial services committees (which have jurisdiction over the SEC) and Congress’s agricultural committees (which have jurisdiction over the CFTC). Mark Schoeff Jr., *Proposal to Merge SEC, CFTC Will Go Belly Up: Washington Insiders*, INVESTMENTNEWS (Dec. 28, 2012), <https://www.investmentnews.com/proposal-to-merge-sec-cftc-will-go-belly-up-washington-insiders-48440> [https://perma.cc/859M-CWWY].

B. Federal Regulators Should Prohibit FDIC-Insured Banks and Their Affiliates from Investing and Trading in Fluctuating-Value Cryptocurrencies and from Providing Financial Services to Crypto Firms That Are Not Regulated by the SEC or the CFTC.

The crypto crash has shown that fluctuating-value cryptocurrencies are extremely risky, highly volatile, and closely correlated assets. Cryptocurrencies with fluctuating values boomed together during a period of aggressive fiscal stimulus programs, unusually low interest rates, and abundant liquidity, all of which encouraged investors to buy speculative assets that promised exceptionally high yields.³⁴² The same cryptocurrencies crashed together when fiscal stimulus programs ended, central banks increased interest rates significantly, and growth rates for monetary aggregates declined sharply.³⁴³ Moreover, fluctuating-value cryptocurrencies have not demonstrated the capacity to support lawful economic activities other than speculative investing, trading, and lending.³⁴⁴

The boom and crash in fluctuating-value cryptocurrencies were accompanied by widespread fraud, conflicts of interest, market manipulation, self-dealing, misappropriation of customer funds, and other abuses.³⁴⁵ Criminals have frequently used fluctuating-value cryptocurrencies to engage in extortion, money laundering, tax evasion, avoidance of sanctions against terrorist financing, drug trafficking, and illegal gambling.³⁴⁶ Several FDIC-insured banks that provided financial services to crypto firms suffered significant losses and were exposed to

Unlike Professor Seligman, I do not support the creation of a specialized federal agency for crypto-assets. Fluctuating-value cryptocurrencies do not warrant a separate regulator because they are not fundamentally different from traditional nonbank investments like securities, commodities, and derivatives. A specialized crypto regulator would be more vulnerable to capture by the crypto industry, as indicated by the massive lobbying campaign that the crypto industry conducted in support of the CFTC during 2021 and 2022. *See supra* notes 315, 338–40 and accompanying text. In addition, the creation of a specialized crypto regulator would encourage promoters of other novel types of investments to push for the establishment of similar specialized agencies, thereby weakening the existing authorities of the SEC and CFTC.

342. *See supra* Part I.C.1 (describing the factors that contributed to the crypto boom).

343. *See supra* Part I.C.2 (discussing the causes of the crypto crash).

344. *See supra* notes 29–32 and accompanying text (explaining that fluctuating-value cryptocurrencies have not developed lawful economic uses other than speculative investing, trading, and lending); *see also* Todd H. Baker, *Crypto Is Money Without a Purpose*, WALL ST. J., Dec. 20, 2022, at A17 (“Crypto trading can’t serve the productive purpose that defines finance. It performs no intermediation function to help expand the economy or improve society.”); Fabio Panetta, *Caveat Emptor Does Not Apply to Crypto*, FIN. TIMES (Jan. 3, 2023), <https://www.ft.com/content/95249051-f9f0-494d-9fa0-c7cca8edaa69> [https://perma.cc/B6KR-CZUB] (“[U]nbacked crypto assets . . . do not perform any socially or economically useful function. . . . They are speculative assets.”).

345. *See supra* Part I.C.

346. *See supra* note 34 and accompanying text.

severe legal, operational, and reputational risks during the crypto crash.³⁴⁷ The failures of three of those banks in March 2023 threatened the stability of U.S. and European banking systems and nearly caused a full-blown crisis in crypto markets.³⁴⁸

Based on the foregoing evidence, federal bank regulators should determine that investing and trading in fluctuating-value cryptocurrencies, either as principal or as agent for others, are unsafe and unsound banking practices that are impermissible for FDIC-insured banks and their affiliates.³⁴⁹ Investing and trading in fluctuating-value cryptocurrencies (including the acceptance of cryptocurrencies as collateral for loans and derivatives transactions) are highly speculative activities that closely resemble gambling.³⁵⁰ Even if such extremely risky activities are viewed as lawful, they have no place in the federally insured and taxpayer-backed banking system. The financial, legal, operational, and reputational risks of investing and trading in fluctuating-value cryptocurrencies are too great to allow FDIC-insured banks and their affiliates to engage in such activities, either as principals or agents.³⁵¹

The Basel Committee's prudential standards for crypto-assets held by banks classify fluctuating-value cryptocurrencies as "Group 2" crypto-assets and impose more stringent capital and liquidity requirements on those

347. See *supra* notes 211–27 and accompanying text (discussing significant crypto-related problems involving several FDIC-insured banks); Reiners & Gazi, *supra* note 172, at 3–4 (same).

348. See *supra* notes 228–86 and accompanying text (describing severe problems in U.S. and European banking systems and a near-crisis in crypto markets that followed the failures of Silvergate Bank, Silicon Valley Bank, and Signature Bank in March 2023).

349. See *Dodge v. Comptroller of Currency*, 744 F.3d 148, 156 (D.C. Cir. 2014) (holding that an "unsafe and unsound" banking practice is one that threatens the "financial integrity" of a bank or otherwise poses "a reasonably foreseeable undue risk to the institution") (internal quotation marks and citations omitted); RICHARD SCOTT CARNELL, JONATHAN R. MACEY, GEOFFREY P. MILLER & PETER CONTI-BROWN, THE LAW OF FINANCIAL INSTITUTIONS 337–44 (7th ed. 2021) (discussing the authority of federal bank regulators, under 12 U.S.C. § 1818(b), to issue cease-and-desist orders prohibiting banks, bank holding companies, and their affiliates from engaging in unsafe and unsound banking practices); Christopher K. Odinet, *Predatory Fintech and the Politics of Banking*, 106 IOWA L. REV. 1739, 1790–91 (2021) (same).

350. Allen Testimony, *supra* note 110, at 14; Reiners Testimony, *supra* note 31, at 19–20; Todd H. Baker, *Let's Stop Treating Crypto Trading as If It Were Finance*, CLS BLUE SKY BLOG (Nov. 29, 2022), <https://clsbluesky.law.columbia.edu/2022/11/29/lets-stop-treating-crypto-as-if-it-were-finance/> [<https://perma.cc/RGK4-DW2P>] ("The best analogy to crypto trading is probably the relatively new phenomenon of professional e-sports (electronic sports) gambling."); Panetta, *supra* note 344 ("[R]egulation should acknowledge the speculative nature of unbacked cryptos and treat them as gambling activities.").

351. See Allen Testimony, *supra* note 110, at 11–12; Claire Williams, 'A Casino in Your Pocket': *Is Crypto Trading Just Gambling?*, AM. BANKER (Jan. 19, 2023, 9:00 PM), <https://www.americanbanker.com/news/a-casino-in-your-pocket-is-crypto-trading-just-gambling> [<https://perma.cc/EQR6-DZP5>] (stating that "the idea that crypto trading and gambling are strikingly similar" supports the view that federal bank regulators "should insulate the banking system from the volatility of the crypto markets"); cf. Odinet, *supra* note 349, at 1790–91 (analyzing the "reputational harm" that FDIC-insured banks have incurred from partnerships with predatory "fintech" lenders).

assets.³⁵² The Basel Committee's standards also establish exposure limits for Group 2 crypto-assets held by banks. Those exposure limits provide that (i) a bank's total exposures to Group 2 crypto-assets "generally" should not exceed 1% of its Tier 1 capital and (ii) a bank will be subject to substantially higher capital charges if its total exposures to those assets exceed 2% of its Tier 1 capital.³⁵³ The Basel Committee explained that its exposure limits are intended "to safeguard the banking sector against the potentially significant risks posed by Group 2 cryptoassets."³⁵⁴

During the first two months of 2023, federal bank regulators issued several policy statements and orders that indicated significant concerns about the risks posed to banks by crypto-related activities. On January 3, the FDIC, Fed, and OCC issued a joint statement that described "a number of key risks associated with crypto-assets and crypto-asset sector participants" and emphasized the importance of not allowing those risks to "migrate to the banking system."³⁵⁵ The agencies warned banks that "issuing or holding as principal crypto-assets that are issued, stored, or transferred on an open, public, and/or decentralized network, or similar system is highly likely to be inconsistent with safe and sound banking practices."³⁵⁶ The agencies also expressed "significant safety and soundness concerns with business models that are concentrated in crypto-asset-related activities or have concentrated exposures to the crypto-asset sector."³⁵⁷

352. BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 1–2, 6, 17–28; Cravath, Basel Committee Finalizes Prudential Standard, *supra* note 13, at 2, 6–7; *see also supra* note 13 and accompanying text (discussing the Basel Committee's distinction between "Group 1" and "Group 2" crypto-assets). The Basel Committee classifies Group 2 crypto-assets that meet specified "hedging recognition criteria" as "Group 2a" crypto-assets, and those crypto-assets are subject to somewhat higher capital requirements than traditional banking assets. Group 2 crypto-assets that do not meet those hedging criteria are classified as "Group 2b" crypto-assets and are subject to a much higher 1250% risk weight. That 1250% risk weight "will ensure that banks are required to hold minimum risk-based capital at least equal in value to their Group 2b cryptoasset exposures." BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 1, 17–21; *see also* Cravath, Basel Committee Finalizes Prudential Standard, *supra* note 13, at 5–6; Memorandum, David L. Portilla & Will C. Giles, Cravath, Basel Committee Issues Second Consultation on Prudential Framework for Cryptoasset Exposures 5–7 (2022), <https://www.cravath.com/a/web/iwDQWnX7LxJMtmVicBMp3d/4j2RHd/basel-committee-issues-second-consultation-on-prudential-framework-for-cryptoasset-exposures.pdf> [<https://perma.cc/6LUR-WCB5>] (discussing the distinctions drawn by the Basel Committee among Group 1, Group 2a, and Group 2b crypto-assets).

353. BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 1–3, 21, 28 (explaining that, if a bank's total exposures to Group 2 crypto-assets exceed 2% of its Tier 1 capital, all of the bank's Group 2 exposures will be subject to the 1250% risk weight); Cravath, Basel Committee Finalizes Prudential Standard, *supra* note 13, at 2, 6, 7–8 (same).

354. BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 4.

355. Statement, Bd. of Governors of the Fed. Rsr. Sys., Fed. Deposit Ins. Corp. & Off. of the Comptroller of the Currency, Joint Statement on Crypto-Asset Risks to Banking Organizations 1 (Jan. 3, 2023) [hereinafter January 2023 Joint Statement], <https://www.federalreserve.gov/newsreleases/files/bcreg20230103a1.pdf> [<https://perma.cc/Q6US-WZQK>].

356. *Id.* at 2.

357. *Id.*

On February 23, federal bank regulators issued another joint statement emphasizing the need for “effective risk management” to address “liquidity risks” created by deposits received from crypto firms or their customers.³⁵⁸ The agencies’ joint statements on January 3 and February 23 did not prohibit banks from providing banking services to crypto firms.³⁵⁹ However, the agencies said they would “continue to closely monitor crypto-asset-related exposures of banking organizations” and “assess whether or how current and proposed crypto-asset-related activities by banking organizations can be conducted” in a safe and sound manner.³⁶⁰

On January 27, the Fed issued a policy statement explaining that a state member bank (whether FDIC-insured or uninsured) must obtain the Fed’s approval before engaging in a crypto-related activity that has not been previously approved by the OCC for national banks or by the FDIC for FDIC-insured state banks.³⁶¹ The Fed’s January 27 policy statement establishes a presumption that the Fed will not approve any such activity unless there is a “clear and compelling rationale” for permitting the activity.³⁶² In addition, the Fed will “presumptively prohibit state member banks” from investing or trading as principals in “most crypto-assets, including bitcoin and ether,” because such activities are not permissible for national banks.³⁶³

The Fed’s January 27 policy statement allows state member banks to provide custodial and payment services and to issue tokenized deposits (and presumably stablecoins) that comply with the OCC’s interpretive letters describing the authority of national banks to engage in crypto-related

358. Statement, Bd. of Governors of the Fed. Rsr. Sys., Fed. Deposit Ins. Corp. & Off. of the Comptroller of the Currency, Joint Statement on Liquidity Risks to Banking Organizations Resulting from Crypto-Asset Market Vulnerabilities (Feb. 23, 2023), <https://www.federalreserve.gov/newsreleases/pressreleases/files/bcreg20230223a1.pdf> [<https://perma.cc/NM46-8KPW>].

359. *See id.* (“[Federally-regulated banks] are neither prohibited nor discouraged from providing banking services to customers of any specific class or type, as permitted by law or regulation.”); January 2023 Joint Statement, *supra* note 355 (same).

360. January 2023 Joint Statement, *supra* note 355.

361. Statement, Bd. of Governors of Fed. Rsr. Sys., Policy Statement on Section 9(13) of the Federal Reserve Act 4–5 (Jan. 27, 2023) [hereinafter Fed Crypto Policy Statement], <https://www.federalreserve.gov/newsreleases/pressreleases/files/bcreg20230127a2.pdf> [<https://perma.cc/8PXU-X98V>]. The Fed issued its January 27 policy statement pursuant to Section 9(13) of the Federal Reserve Act, which authorizes the Fed to “limit the activities of State member banks and subsidiaries of State member banks in a manner consistent with [12 U.S.C. § 1831a].” 12 U.S.C. § 330. Under Section 1831a, an FDIC-insured state bank may not engage as principal in an activity that is impermissible for national banks unless the FDIC determines that “the activity would pose no significant risk to the Deposit Insurance Fund” and the state bank satisfies applicable capital requirements. 12 U.S.C. § 1831a(a)(1). The FDIC has adopted regulations implementing its authority under Section 1831a, but those regulations do not address crypto-related activities. *See* 12 C.F.R. pt. 362 (1998). The Fed’s January 27 policy statement was published in the *Federal Register* at 88 Fed. Reg. 7848 (Feb. 7, 2023) (to be codified at 12 C.F.R. pt. 208).

362. Fed Crypto Policy Statement, *supra* note 361, at 4–5, 88 Fed. Reg. at 7849.

363. *Id.* at 8–9, 88 Fed. Reg. at 7850.

activities.³⁶⁴ However, the Fed’s policy statement cautions that issuing tokenized deposits or stablecoins on “open, public, and/or decentralized networks, or similar systems is highly likely to be inconsistent with safe and sound banking practices” because of the “operational, cybersecurity, and run risks” associated with those types of networks.³⁶⁵ That warning indicates that the Fed would not be likely to allow state member banks to issue tokenized bank deposits or bank stablecoins on networks other than those that use permissioned ledgers and are subject to effective regulatory oversight.

In view of the Fed’s January 27 policy statement, the Fed probably would not allow state member banks (whether FDIC-insured or uninsured) to engage in crypto-related activities that have not been previously approved by either the OCC or the FDIC.³⁶⁶ On the same day that the Fed issued its policy statement, the Fed denied an application by Custodia Bank, an uninsured Wyoming SPDI, to become a state member bank. The Fed stated that Custodia Bank’s “novel business model and proposed focus on crypto-assets presented significant safety and soundness risks,” and the bank’s “risk management framework was insufficient to address concerns” related to those risks.³⁶⁷

The foregoing pronouncements by the Basel Committee and federal banking regulators recognized the growing risks that fluctuating-value cryptocurrencies and crypto firms pose to our banking system. However, the Basel Committee’s standards would permit banks to retain meaningful

364. *Id.* at 8–10, 88 Fed. Reg. at 7850; *see also supra* notes 149–54 and accompanying text (discussing the OCC’s interpretive letters); *Crypto’s Integration into the Traditional Financial System Is Under More Pressure*, DAVIS POLK (Feb. 2, 2023), <https://www.davispolk.com/insights/client-update/cryptos-integration-traditional-financial-system-under-more-pressure> [https://perma.cc/C8YQ-MZ5J] (analyzing the Fed’s January 27 policy statement).

365. Fed Crypto Policy Statement, *supra* note 361, at 10, 88 Fed. Reg. at 7850.

366. *See* DAVIS POLK, *supra* note 364 (explaining that the Fed’s policy statement “has effectively established a strong presumption against approval” of crypto-related activities that have not been previously authorized by the OCC for national banks or by the FDIC for FDIC-insured state banks).

367. Press Release, Bd. of Governors of Fed. Rsr. Sys., Federal Reserve Board Announces Denial of Application by Custodia Bank, Inc. to Become a Member of the Federal Reserve System (Jan. 27, 2023, 11:30 AM), <https://www.federalreserve.gov/newsreleases/orders20230127a.htm> [https://perma.cc/7AGJ-7XD6]. The Fed stated that Custodia Bank intended to engage in “novel and untested crypto activities that include issuing a crypto asset on open, public and/or decentralized networks.” *Id.* The Fed subsequently issued an eighty-six-page order providing a detailed explanation of the Fed’s reasons for denying Custodia’s application. Fed Custodia Bank Order, *supra* note 166; *see also* Press Release, Bd. of Governors of Fed. Rsr. Sys., Federal Reserve Board Publishes Its Order Denying the Application by Custodia Bank, Inc., to Be Supervised by the Federal Reserve (Mar. 24, 2023, 1:00 PM), <https://www.federalreserve.gov/newsreleases/orders20230324a.htm> [https://perma.cc/G68E-UN6K] (announcing the publication of the Fed’s eighty-six-page order); *supra* notes 165–66, *infra* note 425 and accompanying text (discussing Custodia Bank and its crypto-focused business plan).

exposures to fluctuating-value cryptocurrencies and would not limit the authority of banks to provide financial services to crypto firms.³⁶⁸

In addition, prior to January 2023, the OCC, the Fed, and the FDIC allowed national banks and FDIC-insured state banks to provide credit, custodial, deposit, and payment services to crypto firms and (in at least two cases) to provide crypto trading services to their customers.³⁶⁹ The policy statements issued by federal bank regulators in January and February 2023 do not adequately protect banks against crypto-related risks because those statements allow banks to maintain financial relationships with crypto firms, thereby encouraging both groups to lobby for permission to expand those relationships. As Dennis Kelleher recently observed, “crypto companies have been relentless in attempting to penetrate the core of the banking business.”³⁷⁰ Despite the failures of three prominent crypto-related banks in March 2023, a substantial number of U.S. and foreign banks continue to provide a wide range of financial services to crypto exchanges and other crypto firms.³⁷¹

In view of the disastrous record of fluctuating-value cryptocurrencies and their connections to the failures of Silvergate, SVB, and Signature in March 2023, federal bank regulators should prohibit FDIC-insured banks from investing and trading in such assets, either as principals or as agents for others.³⁷² In addition, federal bank regulators should determine that it is

368. Reiners & Gazi, *supra* note 172, at 14.

369. See *supra* Part II.A (discussing the involvement of numerous FDIC-insured banks in crypto-related activities prior to January 2023, with the approval or acquiescence of the OCC, Fed, and FDIC).

370. Claire Williams, *The Unlikely Crypto Companies Using the Trump-Era ‘Hot Money’ Rule*, AM. BANKER (Feb. 6, 2023, 1:01 PM), <https://www.americanbanker.com/news/the-unlikely-crypto-companies-using-the-trump-era-hot-money-rule> [https://perma.cc/2EL4-HEEY] (quoting Mr. Kelleher).

371. Savannah Fortis, *SVB and Silvergate Are Out, but Major Banks Are Still Backing Crypto Firms*, COINTELEGRAPH (Mar. 14, 2023), <https://cointelegraph.com/news/svb-and-silvergate-are-out-but-major-banks-are-still-backing-crypto-firms> [https://perma.cc/WB8Q-KD43] (reporting that BNY Mellon, JPMC, Axos Bank, Cross River Bank, Customers Bank, United Texas Bank, and Western Alliance Bank were providing financial services to crypto firms along with DBS, a Singapore bank, and certain Swiss banks); Ben Strack & Michael Bodley, *After Bank Failures, Where Will Crypto Firms Turn?*, BLOCKWORKS (Mar. 16, 2023, 10:22 AM), <https://blockworks.co/news/who-will-bank-crypto> [https://perma.cc/W7GS-HCJC] (reporting that Customers Bank offered payment services to crypto firms through its “blockchain-based real-time payments platform Tassat,” while BNY Mellon provided custodial and deposit services, JPMC, Goldman Sachs, State Street Bank, and Cross River Bank provided deposit services, and BCB, a British payments firm, provided payment services, business accounts, and trading services to such firms); see also Alexander Osipovich, Rachel Louise Ensign & Vicky Ge Huang, *Lenders Aim to Fill Crypto Gap*, WALL ST. J., Mar. 28, 2023, at B1 (stating that several banks, including BNY Mellon, Cross River Bank, Customers Bank, Fifth Third Bank, and JPMC, “stepped up to fill the vacuum created [for crypto firms] after Silvergate shut down and Signature was placed in receivership with the [FDIC]”); *supra* notes 202–06 and accompanying text (discussing efforts by U.S. and foreign banks to provide financial services to crypto firms, despite the problems caused by the crypto crash).

372. See *supra* notes 349–51 and accompanying text (discussing the banking agencies’ legal authority to prohibit such activities as unsafe and unsound banking practices).

an unsafe, unsound, and prohibited banking practice for FDIC-insured banks and their affiliates to provide credit, custodial, deposit, payment, or other financial services to crypto firms unless those entities and their ultimate parent companies are registered with and regulated by the SEC and/or the CFTC.³⁷³ An FDIC-insured bank should not be allowed to provide financial services to a crypto firm that is registered with only one of those agencies unless the bank obtains an opinion from qualified U.S. legal counsel stating that the crypto firm is not subject to the other agency's jurisdiction.

Crypto ventures have used many strategies to evade compliance with applicable federal securities and commodities laws in the past. Those strategies have included the creation of ostensibly “decentralized” structures and the use of affiliates and offshore headquarters to shield their parent companies from effective regulatory oversight.³⁷⁴ In view of the great risks posed by unregulated and weakly regulated crypto enterprises, federal bank regulators should declare that it is an unsafe, unsound, and prohibited banking practice for FDIC-insured banks and their affiliates to provide financial services to crypto firms unless those firms and their parent companies are registered and regulated pursuant to U.S. laws governing securities, commodities, futures, and derivatives.

C. Congress Should Mandate That All Providers of Stablecoins and Tokenized Deposits Must Be FDIC-Insured Banks.

1. Providers of Stablecoins and Tokenized Deposits Should Comply with the Regulatory Safeguards Governing FDIC-Insured Banks.

I have previously argued that Congress should require all issuers and distributors of stablecoins to be FDIC-insured banks.³⁷⁵ That requirement would ensure that stablecoin providers and their parent companies and other affiliates must comply with the regulatory safeguards established by the FDI

373. See *supra* note 349 and accompanying text (describing the authority of federal bank regulators to prohibit unsafe and unsound banking practices).

374. See Allen Testimony, *supra* note 110, at 2, 15–20; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 5, 13, 15, 56–57, 86–87, 92–95, 97, 108–09, 114–16; KELLEHER, *supra* note 330; Reiners Testimony, *supra* note 31, at 20–21, 29–31; see also *supra* notes 35–40, *infra* notes 393–94 and accompanying text (discussing Binance's and Tether's efforts to evade regulatory oversight); Martha Muir, *Cryptocurrency Market Struggles with Transparency*, FIN. TIMES (May 20, 2023), <https://www.ft.com/content/85184cf9-79d2-4080-b817-4ea6f0cc9846> [<https://perma.cc/U7AU-8SGR>] (“Many of the biggest names in the cryptocurrency market still dodge basic questions about their businesses The [Financial Times] asked 21 of the most prominent crypto companies about their governance and handling of customer assets. Eight declined to share any basic information, such as where they are headquartered, while others provided partial answers.”).

375. Wilmarth, *Stablecoins*, *supra* note 159, at 2, 9–13; Wilmarth, Treasury Comment Letter, *supra* note 21, at 11–13.

Act³⁷⁶ and the Bank Holding Company Act (BHC Act).³⁷⁷ Those safeguards are urgently needed because stablecoins are functionally equivalent to deposits. As shown below, it would be a grave error to allow nonbanks or uninsured depository institutions to issue or distribute stablecoins that function as shadow deposits outside our regulated banking system.

The Basel Committee's prudential standards for crypto-assets provide that "Group 1" crypto-assets include tokenized deposits (digital representations of traditional bank deposits) and stablecoins that satisfy prescribed Group 1 standards.³⁷⁸ The Basel Committee's Group 1 standards require stablecoins to have "effective stabilisation mechanisms," including "reserve assets [that] are sufficient to enable the cryptoassets to be redeemable at all times for the peg[ged] value."³⁷⁹ Tokenized deposits and qualifying Group 1 stablecoins are exempted from the higher capital and liquidity requirements and exposure limits that apply to "Group 2" crypto-assets.³⁸⁰

Circle's USDC stablecoin—the world's second-largest stablecoin in March 2023³⁸¹—might arguably satisfy the Basel Committee's Group 1 standards. Circle represents that "every digital dollar of USDC on the internet is 100% backed by cash and short-dated U.S. treasuries, so that it's always redeemable 1:1 for U.S. dollars."³⁸² Circle's customer agreement provides that customers have the "right to redeem" USDC stablecoins held in their accounts with Circle "for an equivalent amount of [U.S. dollars]."³⁸³ However, USDC's temporary loss of its \$1 peg in March 2023, after \$3.3 billion of Circle's reserves were frozen by SVB's failure, could raise a substantial question regarding the adequacy of Circle's reserves held in the form of uninsured bank deposits.³⁸⁴

376. 12 U.S.C. §§ 1811–1835a.

377. 12 U.S.C. §§ 1841–1852.

378. BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 1, 2, 6–10.

379. *Id.* at 6, 8; *see id.* at 6–10.

380. *See supra* note 13 and accompanying text (discussing the Basel Committee's distinction between "Group 1" and "Group 2" crypto-assets); *supra* notes 352–54 and accompanying text (describing the heightened requirements that apply to "Group 2" crypto-assets).

381. *Stablecoin Supply Graph*, *supra* note 44 (showing that USDC was the second-largest stablecoin with \$30.8 billion of outstanding coins on March 31, 2023); *see also supra* notes 49–52 and accompanying text (discussing Circle and its USDC stablecoin).

382. *Always-On Dollars, Internet Speed*, CIRCLE, <https://www.circle.com/en/usdc> [<https://perma.cc/L34F-2QXT>]; *see also id.* (stating that Circle's USDC stablecoin is "a trusted, widely accepted, and highly liquid digital dollar" that has "global reach" and is "available whenever and wherever you need it").

383. *Legal / USDC Terms: Legal & Privacy*, CIRCLE (Dec. 20, 2022), <https://www.circle.com/en/legal/usdc-terms> [<https://perma.cc/QN47-5HX4>].

384. *See supra* notes 255–62, 282–85 and accompanying text (discussing USDC's temporary loss of its \$1 peg after \$3.3 billion of Circle's reserves were "trapped" by SVB's failure, and explaining that USDC did not recover its \$1 peg until federal authorities announced that they would protect SVB's uninsured depositors, including Circle).

Circle's USDC stablecoins satisfy the widely accepted functional definition of "deposits" because Circle issues its stablecoins in exchange for its customers' funds and promises to return the same amount of funds to its customers when they redeem their stablecoins.³⁸⁵ Circle's financial statements designate the funds Circle has received in exchange for its USDC stablecoins as "[d]eposits from customers and stablecoin holders."³⁸⁶ Circle acknowledges that its "liabilities" for those "[d]eposits"—which exceeded \$47 billion in September 2022—"are not covered by FDIC deposit insurance."³⁸⁷ Accordingly, USDC's loss of its \$1 peg after SVB failed would have exposed holders of its stablecoins to the risk of significant losses if the FDIC and Treasury had decided *not* to protect Circle and SVB's other uninsured depositors.³⁸⁸

Issuers of Group 1 stablecoins should be required to comply within the legal regime governing FDIC-insured banks. Equivalent regulatory treatment for stablecoins and bank deposits is mandated by FSOC's "same activity, same risk, same regulatory treatment" principle, which FSOC affirmed in its report analyzing the financial-stability risks of digital assets.³⁸⁹ FSOC's report recognized that, without equivalent regulatory treatment, stablecoin providers would be permitted to engage in "regulatory arbitrage" by offering deposit services without complying with the requirements applicable to FDIC-insured banks.³⁹⁰

385. See *MoneyGram Int'l, Inc. v. Comm'r*, 999 F.3d 269, 274 (5th Cir. 2021) ("[D]efin[ing] 'deposits' as 'funds that customers place in a bank for the purpose of safekeeping that are repayable to the depositor on demand or at a fixed time.'") (quoting *MoneyGram Intl., Inc. v. Comm'r*, 664 Fed. App'x 386, 392 (5th Cir. 2016)); *United States v. Jenkins*, 943 F.2d 167, 174 (2d Cir. 1991) (defining "deposit" as "a sum of money placed in the custody of a bank, to be withdrawn at the will of the depositor"); *see also In re Thaxton Grp., Inc.*, Sec. Litig., No. CV 8:04-22275-GRA, 2006 WL 8462530, at *1–3, *9–14 (D.S.C. Mar. 20, 2006) (holding that a nonbank finance company accepted "deposits" when it sold demand promissory notes to investors, thereby "taking money from investors in return for a promise to return the funds on demand," particularly as the "notes were designed to imitate bank certificates of deposit and money market accounts in order to attract bank depositors to the note program"); Gary B. Gorton & Jeffrey Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L REV. (forthcoming) (manuscript at 6–16), <https://ssrn.com/abstract=3888752> [<https://perma.cc/DP4Z-3RBJ>] (discussing the functional similarities between stablecoins and bank deposits, and stating that "issuers of stablecoins are essentially unregulated banks"); Wilmarth, *Stablecoins*, *supra* note 159, at 2–3, 7–9 (stating that many stablecoins are "deposits" under the generally-accepted functional meaning of that term and discussing Facebook's former stablecoin project, which permitted customers to buy stablecoins for a fixed price of \$1 per coin and promised to redeem those stablecoins at the same price).

386. Circle S-4 Amendment No. 7, *supra* note 294, at 125, 269, 271, 272, 274, 277, F-2, F-17, F-50, F-63.

387. *Id.* at 277; *see also id.* at 251 (stating that \$47.3 billion of USDC stablecoins were outstanding on September 30, 2022).

388. *See supra* notes 282–85 and accompanying text (discussing the benefits received by Circle and the holders of USDC stablecoins after the federal government decided to protect SVB's uninsured depositors).

389. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 111.

390. *Id.* at 75, 114–16.

So-called “stablecoins” that do not qualify for classification as Group 1 crypto-assets under the Basel Committee’s standards should not be treated as stablecoins. Such crypto-assets would not have “effective stabilization mechanisms,” including adequate financial reserves and sufficient legal, operational, and regulatory protections to ensure their timely redemption at their pegged value.³⁹¹ Any non-qualified stablecoins should be classified as higher-risk Group 2 crypto-assets under the Basel Committee’s standards.³⁹²

In addition, federal agencies (including the SEC and the CFTC) should prohibit all persons from advertising or representing that any Group 2 crypto-asset is a “stablecoin,” as such a representation would be deceptive and manipulative. For example, it is highly doubtful whether Tether—the world’s largest stablecoin—would qualify as a Group 1 stablecoin in view of its offshore location, its lack of strong regulatory oversight, its failure to maintain its \$1 peg in May and November 2022, its past regulatory problems, and continued questions about its legal compliance and the adequacy of its financial disclosures and reserves.³⁹³ Similarly, Binance, the cosponsor of BUSD stablecoins, has avoided effective regulatory oversight, has been sued by the CFTC and the SEC for willfully evading federal regulatory requirements, and did not hold sufficient reserves to maintain the \$1 peg for one of its stablecoins during 2020 and 2021.³⁹⁴ Consequently, it is likely that Binance’s BUSD stablecoins would not qualify for treatment as Group 1 stablecoins.

In February 2023, NYDFS directed Paxos Trust to stop minting Paxos-issued BUSD stablecoins as “a result of several unresolved issues related to Paxos’ oversight of its relationship with Binance.”³⁹⁵ Paxos agreed to stop minting new BUSD stablecoins and promised to redeem outstanding BUSD stablecoins for another twelve months. The NYDFS directive did not affect

391. BASEL COMM. ON BANKING SUPERVISION, *supra* note 13, at 6; *see id.* at 1–3, 6–10.

392. *Id.* at 1–2, 6.

393. *See Stablecoin Supply Graph*, *supra* note 44 (showing that Tether was the largest stablecoin on March 31, 2023, with \$80.5 billion of outstanding coins); *supra* notes 57–58, 96 and accompanying text (discussing Tether’s temporary failures to maintain its \$1 peg in May and November 2022); Foldy et al., *supra* note 53 (describing Tether’s incorporation in the British Virgin Islands, its past regulatory problems, and continued doubts about the adequacy of its financial disclosures and reserves); FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 46–47, 51–52, 94–96, 104 (same); Wilmarth, Treasury Comment Letter, *supra* note 21, at 2, 6, 14 (same); *see also* Foldy & Hui, *supra* note 48 (reporting that Tether’s parent company and Bitfinex (a crypto exchange affiliated with Tether) used “shadowy intermediaries, falsified documents and shell companies” to “maintain their access to the global banking system”).

394. *See supra* notes 35–40, 55–56 and accompanying text (discussing Binance’s largely unregulated and unaudited status, the CFTC’s and SEC’s civil enforcement actions against Binance, and persistent shortfalls in Binance’s reserves for one of its stablecoins during 2020 and 2021).

395. Michelle Toh, *US Regulator Orders Crypto Firm to Stop Minting Binance Stablecoin*, CNN Bus. (Feb. 14, 2023, 10:36 PM), <https://www.cnn.com/2023/02/14/investing/paxos-binance-busd-halt-order-us-intl-hnk/index.html> [<https://perma.cc/DMV7-UCWF>] (quoting statement from NYDFS).

Paxos's ability to issue other tokens, including Paxos's USDP stablecoins.³⁹⁶

The collapse of the Terra stablecoin and over twenty other stablecoins and the repeated loss of \$1 pegs by Tether, USDC, and a Binance stablecoin demonstrate that unregulated and weakly regulated stablecoins pose great dangers to investors and the stability of our banking system and financial markets.³⁹⁷ Accordingly, Congress should mandate that all issuers and distributors of Group 1 stablecoins must be FDIC-insured banks.³⁹⁸ The regulatory regime governing FDIC-insured banks provides crucial protections for our banking system, economy, and society. Those safeguards include (i) deposit insurance coverage, funded by risk-based deposit insurance premiums; (ii) periodic reporting and examination requirements; (iii) supervisory and enforcement powers exercised by federal banking agencies; (iv) special procedures for resolving failed and failing banks; (v) risk-based capital requirements and other safety and soundness standards; (vi) prompt corrective action remedies; (vii) competition standards governing bank mergers; (viii) prohibitions against abusive tying practices; (ix) “source of strength” obligations for parent companies of banks; (x) community reinvestment standards; and (xi) disclosure and expedited-funds-availability requirements for deposits.³⁹⁹ In addition, the BHC Act requires companies that own or control FDIC-insured banks to satisfy further safeguards, including (i) competition standards governing holding company acquisitions of banks; (ii) limitations on permissible nonbanking activities; (iii) the Fed’s supervisory and enforcement powers;

396. *Id.*; Press Release, Paxos, Paxos Will Halt Minting New BUSD Tokens (Feb. 13, 2023), <https://paxos.com/2023/02/13/paxos-will-halt-minting-new-busd-tokens/> [https://perma.cc/BNV4-7NHU].

397. See *supra* notes 54–60, 90–96, 255–62, 282–85 and accompanying text (discussing the collapse of Terra and more than twenty other stablecoins and the temporary loss of \$1 pegs by Tether, USDC, and a Binance stablecoin).

398. Congress could require all issuers and distributors of stablecoins to be FDIC-insured banks by amending Section 21(a) of the Glass-Steagall Act, 12 U.S.C. § 378(a). Section 21(a) currently prohibits securities firms and other persons that are not chartered or regulated as depository institutions from engaging in “the business of receiving deposits subject to check or to repayment upon presentation of a passbook, certificate of deposit, or other evidence of debt, or upon request of the depositor.” 12 U.S.C. § 378(a)(1), (2); see also Wilmarth, *Stablecoins*, *supra* note 159, at 7–11 (discussing Section 21(a)). I have previously proposed that Congress should amend Section 21(a) by (i) defining the term “deposits” to include “all short-term financial instruments that are payable in practice at par (100% of the amount invested) either on demand or within ninety days of issuance” and (ii) requiring all such deposits to be issued by FDIC-insured banks. Wilmarth, *Stablecoins*, *supra* note 159, at 7–13; WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 242–43.

399. Wilmarth, *Stablecoins*, *supra* note 159, at 11; Wilmarth, Treasury Comment Letter, *supra* note 21, at 12. FDIC-insured banks must also comply with restrictions and requirements governing transactions with their affiliates and insiders. 12 U.S.C. §§ 371c, 371c-1, 375a, 375b, 1828(j).

(iv) risk-based capital requirements; and (v) provisions protecting the privacy of customer financial information.⁴⁰⁰

With limited exceptions, Section 4 of the BHC Act prohibits companies that own or control FDIC-insured banks from engaging in commercial activities and from owning or controlling commercial ventures.⁴⁰¹ Section 4's prohibitions reflect the BHC Act's longstanding policy of separating banking and commerce. That policy is designed to prevent the formation of large banking-and-commercial conglomerates that would pose significant threats to our banking system, economy, and society. Those dangers include (i) excessive concentrations of economic and financial power and political influence; (ii) conflicts of interest that would undermine the ability of banks to act as objective providers of credit and other financial services; and (iii) risks of systemic contagion between the financial and commercial sectors of our economy, which could inflict huge losses on the federal "safety net" for FDIC-insured banks.⁴⁰² The federal safety net for banks includes the Deposit Insurance Fund, the Fed's discount window, the Fed's emergency lending programs for banks (such as the BTFP), the Fed's payment system guarantees (including guarantees for interbank payments made on Fedwire), and the federal government's explicit and implicit backstops for "too big to fail" banking organizations.⁴⁰³

Thus, a congressional mandate requiring all stablecoin providers to be FDIC-insured banks would provide crucial protections to our banking and financial systems as well as nonfinancial businesses and consumers. Among other things, that mandate would prevent Big Tech firms from issuing or distributing stablecoins.⁴⁰⁴ Big Tech firms will almost certainly use stablecoins to expand their involvement in financial services and crypto-related activities unless federal authorities prevent them from doing so.

400. Wilmarth, *Stablecoins*, *supra* note 159, at 11; Wilmarth, Treasury Comment Letter, *supra* note 21, at 12.

401. 12 U.S.C. § 1843(a)(2), (c), (k), (n), (o); see BARR ET AL., *supra* note 155, at 723–25, 729–32, 740–43 (explaining that the BHC Act generally prohibits bank holding companies from engaging in commercial activities and from owning or controlling commercial enterprises, and describing the limited exceptions to those prohibitions); Arthur E. Wilmarth, Jr., *The OCC's and FDIC's Attempts to Confer Banking Privileges on Nonbanks and Commercial Firms Violate Federal Laws and Are Contrary to Public Policy*, BANKING & FIN. SERVS. POL'Y REP., Oct. 2020, at 6–11, 21 nn.55–73 [hereinafter Wilmarth, *Banking Privileges*], <https://ssrn.com/abstract=3750964> [<https://perma.cc/K83E-T3SK>] (same).

402. Wilmarth, *Banking Privileges*, *supra* note 401, at 6–11; Wilmarth, *Stablecoins*, *supra* note 159, at 11–12.

403. Wilmarth, *Banking Privileges*, *supra* note 401, at 1, 6–7, 9; Wilmarth, *Stablecoins*, *supra* note 159, at 11–12; *see also supra* notes 266–71 and accompanying text (discussing the BTFP).

404. Wilmarth, *Stablecoins*, *supra* note 159, at 2, 4, 11–13.

Apple and Google currently permit consumers to use their payment apps to buy cryptocurrencies on several crypto exchanges.⁴⁰⁵ Apple has expanded its array of payment services in recent years, and it is seeking to establish a much larger presence in the financial services market.⁴⁰⁶ Accordingly, it is very likely that Apple will explore the possibility of offering stablecoins to its customers if regulators allow Apple to do so.

Facebook pursued a determined campaign to create a global stablecoin, and it abandoned that project only after encountering strong opposition from U.S. and international bank regulators. The deposit and payment services contemplated by Facebook's former stablecoin project would have enabled Facebook to compete directly with banks and amass a vast amount of data about its customers' financial assets and transactions.⁴⁰⁷ A congressional mandate requiring all stablecoin providers to be FDIC-insured banks would prevent Apple, Facebook, and other Big Tech firms from issuing or distributing stablecoins, as Big Tech firms are generally barred from acquiring FDIC-insured banks. Such a mandate would stop Big Tech firms from using stablecoins to increase their economic and financial power and expand their ability to monetize their customers' private financial information.⁴⁰⁸

As shown above, Circle and other nonbank providers of stablecoins offer financial instruments that are the functional equivalents of deposits but do not comply with the regulatory safeguards governing FDIC-insured banks and their parent companies and other affiliates.⁴⁰⁹ Circle is a state-licensed money transmitter, and Circle is governed by directives from the U.S. Treasury Department's Financial Crimes Enforcement Network (FinCEN) regarding anti-money laundering laws and sanctions on terrorist

^{405.} See, e.g., Khashayar Abbasi, *How to Buy Bitcoin with Google Pay*, BANKLESS TIMES (Feb. 16, 2023), <https://www.banklesstimes.com/cryptocurrency/bitcoin/buy/with-google-pay/> [https://perma.cc/Z8AD-6N4B]; *Bitstamp Now Supports Apple Pay and Google Pay*, BITSTAMP BLOG (Aug. 31, 2022), <https://blog.bitstamp.net/post/bitstamp-now-supports-apple-pay-and-google-pay/> [https://perma.cc/8RUQ-VXRZ]; Shailey Singh, *How to Buy Bitcoin with Apple Pay?*, COINTELEGRAPH (Jan. 5, 2023), <https://cointelegraph.com/news/how-to-buy-bitcoin-with-apple-pay> [https://perma.cc/Z3YF-G4M3].

^{406.} Patrick McGee & Joshua Franklin, *Will Apple Take a Big Bite out of Banks?*, FIN. TIMES (Apr. 21, 2023), <https://www.ft.com/content/fda76c42-0540-48a1-b1d9-259e1c2d6c3a> [https://perma.cc/56J4-9RQC] ("[Apple] is playing a long game in finance and payments, . . . and its current moves are laying the technical groundwork for taking a bigger share of the market.")

^{407.} Wilmarth, *Stablecoins*, *supra* note 159, at 1–4, 7–8, 12–13; Adams, *supra* note 287 (discussing Facebook's sale of its stablecoin project to Silvergate Bank); Crosman, *supra* note 287 (describing the same sale as well as the strong pushback that Facebook's stablecoin project received from U.S. and international financial regulators).

^{408.} Wilmarth, *Stablecoins*, *supra* note 159, at 1–4, 11–13; Wilmarth, Treasury Comment Letter, *supra* note 21, at 10–13.

^{409.} See *supra* notes 382–90, 397–404 and accompanying text.

organizations.⁴¹⁰ However, state money transmitter laws vary widely, and they do not provide strong protections for customers who deposit funds with licensed transmitters for extended periods of time.⁴¹¹ Similarly, FinCEN's requirements for money transmitters do not ensure that consumers can recover funds they have entrusted to those entities.⁴¹²

In 2022, PayPal announced plans to create its own stablecoin "to make crypto more accessible to mainstream users."⁴¹³ PayPal is a state-licensed money transmitter that provides lending and payment services to over 430 million consumers and merchants.⁴¹⁴ PayPal allows merchants to accept cryptocurrencies as payments, and PayPal also enables consumers to buy and sell cryptocurrencies.⁴¹⁵ In 2021, PayPal CEO Dan Schulman said that he wanted to "transform PayPal" into a "platform" for "digital payments of all kinds."⁴¹⁶

At the end of 2022, PayPal held over \$35 billion of customer balances that were not in the custody of PayPal's partner banks and, therefore, were

410. Circle S-4 Amendment No. 7, *supra* note 294, at 73, 76, 200, 204, 208, 217, 238, 277–78, F-17, F-63; *see also* FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 98–100, 115 (discussing state licensing of money transmitters and FinCEN's requirements for such entities); TREASURY ACTION PLAN, *supra* note 34, at 7–8, 13 (same).

411. Dan Awrey, *Bad Money*, 106 CORNELL L. REV. 1, 7–8, 40–56 (2020) (analyzing the "alarming . . . permissiveness" of state laws regulating money transmitters, and stating that the laxity of those laws "undermines the credibility of [money transmitters'] monetary commitments"); Clark, *supra* note 334 (explaining that state money transmitter laws "were not designed to regulate firms facilitating trading in investment assets"); Benjamin Cooper, *Analysis: Money Transmission Oversight Too Slow for Crypto*, BLOOMBERG L. (May 31, 2023, 4:00 AM) (describing state money transmitter laws as "inconsistent" and "ill-fitting rules" that are "too slow" and "can't be relied upon to save the day" as a source of protection for consumers who invest in crypto-assets), <https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-money-transmission-oversight-too-slow-for-crypto> [<https://perma.cc/3PKZ-US99>]; FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 97–98 (pointing out that state money transmitter laws "typically [provide] only very limited loss absorbing buffers for the purpose of consumer protection"); Rohit Chopra, Dir. of the Consumer Fin. Prot. Bureau, Statement on the 2022 Annual Report of the Financial Stability Oversight Council (Dec. 16, 2022) [hereinafter Statement of CFPB Director Chopra], <https://www.consumerfinance.gov/about-us/newsroom/statement-of-cfpb-director-rohit-chopra-on-the-2022-annual-report-of-the-financial-stability-oversight-council/> [<https://perma.cc/G93K-3CUN>] (expressing doubts whether state money transmitter laws provide adequate protection for consumers who hold balances with nonbank providers of payment services).

412. FSOC DIGITAL ASSETS REPORT, *supra* note 1, at 98, 115.

413. Adams, *supra* note 287 (quoting a senior PayPal executive); Wilmarth, *Stablecoins*, *supra* note 159, at 1.

414. John Adams, *PayPal Poses Big Threat to Banks in Race to Develop Stablecoins*, AM. BANKER (Jan. 11, 2022, 9:00 PM), <https://www.americanbanker.com/payments/news/paypal-poses-big-threat-to-banks-in-race-to-develop-stablecoins> [<https://perma.cc/GQP3-55NQ>]; PayPal Holdings, Inc., Annual Report (Form 10-K) 4–9, 12–14, 19–21, 37, 71, 76 (Feb. 9, 2023) [hereinafter PayPal 10-K Report], <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001633917/b562e712-8266-493c-8ae8-e28f93404d2f.pdf> [<https://perma.cc/U3RU-JFXU>].

415. Adams, *supra* note 414; PayPal 10-K Report, *supra* note 414, at 5, 8, 12, 19–21, 37, 72, 78, 85–86.

416. Tim Bradshaw, *PayPal's Dan Schulman on Seizing the Opportunities in Digital Payments*, FIN. TIMES (Aug. 22, 2021), <https://www.ft.com/content/398c5fa2-8ee5-4eaa-9fc7-04bb4ef996e5> [<https://perma.cc/QH5P-VY88>].

not eligible for FDIC pass-through deposit insurance coverage.⁴¹⁷ PayPal's customer balances represent unsecured liabilities of PayPal and are not protected by federal deposit insurance.⁴¹⁸ PayPal provides deposit-like treatment for customer balances by allowing customers to withdraw their balances on demand or transfer their balances to third parties.⁴¹⁹

Thus, PayPal (like Circle) holds tens of billions of dollars of uninsured de facto deposits that are not protected by the federal regulatory regime governing FDIC-insured banks.⁴²⁰ To stop this dangerous practice, Congress should prohibit entities that are not FDIC-insured banks from offering any type of shadow deposits (short-term financial claims that function as de facto deposits).⁴²¹ In December 2022, Rohit Chopra, Director of the Consumer Financial Protection Bureau, described the hazards that shadow deposits offered by nonbank stablecoin issuers and nonbank payments firms create for consumers and our financial system:

[N]onbank peer-to-peer payments firms serving millions of American consumers could pose similar financial stability risks [as those generated by nonbank stablecoin issuers]. These firms issue runnable deposit-like liabilities and invest in riskier, less liquid assets. People often maintain balances and treat the account like a quasi-bank account. The funds may not be protected by deposit insurance and the failure of such a firm could lead to millions of American consumers becoming unsecured creditors of the bankruptcy estate, similar to the experience with FTX. Our patchwork state money transmitter laws were not designed to ensure the long-term stability of these types of firms.⁴²²

417. PayPal 10-K Report, *supra* note 414, at 54, 61, 72, 89; *see also* Wilmarth, *Pandemic Crisis*, *supra* note 63, at 8 (stating that PayPal held over \$30 billion of uninsured customer balances at the end of 2020).

418. PayPal 10-K Report, *supra* note 414, at 72 (stating that the "customer balances" shown on PayPal's financial statements are "direct claims against us" and do not include customer funds that are "eligible for FDIC pass-through insurance").

419. *PayPal Balance Terms and Conditions*, PAYPAL (May 17, 2023), <https://www.paypal.com/us/webapps/mpp/ua/pp-balance-tnc#holding> [<https://perma.cc/439P-WRKV>]; *see also* Wilmarth, *Pandemic Crisis*, *supra* note 63, at 8 ("PayPal's customer balances are functionally equivalent to bank checking deposits.").

420. PayPal 10-K Report, *supra* note 414, at 12–13, 19–22, 72; Wilmarth, *Pandemic Crisis*, *supra* note 63, at 8–10.

421. Wilmarth, *Pandemic Crisis*, *supra* note 63, at 8–10; Wilmarth, *Stablecoins*, *supra* note 159, at 2–4, 6–7, 11–15; Wilmarth, Treasury Comment Letter, *supra* note 21, at 8–16.

422. Statement of CFPB Director Chopra, *supra* note 411 (citing Awrey, *supra* note 411).

2. Congress Should Reject Proposals that Would Allow Nonbanks and Uninsured Depository Institutions to Issue or Distribute Tokenized Deposits and Stablecoins.

In view of the dangers created by shadow deposits, Congress should reject proposed legislation that would allow financial institutions other than FDIC-insured banks to issue or distribute tokenized deposits and stablecoins. In 2022, Senators Kirsten Gillibrand (D-NY), Cynthia Lummis (R-WY), and Patrick Toomey (R-PA) introduced bills to authorize the issuance of stablecoins by uninsured, special-purpose depository institutions chartered by the OCC or the states.⁴²³ In addition, Senator Toomey's bill would allow state-licensed money transmitters (like Circle and PayPal) and nondepository trust companies chartered by the OCC or the states (like Gemini Trust and Paxos Trust) to issue stablecoins.⁴²⁴ The proposals contained in those bills are contrary to sound principles of banking regulation and should not be adopted.

The Gillibrand-Lummis and Toomey bills would require the Fed to provide master accounts to uninsured stablecoin banks and nondepository stablecoin issuers. Granting Fed master accounts to such institutions would allow them to receive highly beneficial clearing, payment, and settlement services from the Fed (including guarantees for payments made on Fedwire, daylight overdraft privileges, and instantaneous payment services provided by the forthcoming FedNow program). In addition, uninsured stablecoin banks chartered by the OCC would become Fed member banks and could borrow from the Fed's discount window.⁴²⁵

423. Kyle Campbell, *The Lummis-Gillibrand Crypto Bill Provision that Has Banks on Edge*, AM. BANKER (June 8, 2022, 9:09 PM), <https://www.americanbanker.com/news/the-lummis-gillibrand-crypto-bill-provision-that-has-banks-on-edge> [https://perma.cc/ED6V-83FK]; Arthur E. Wilmarth, Jr., *BankThink: Gillibrand-Lummis Crypto Bill Ignores the Lessons of History*, AM. BANKER (June 17, 2022, 10:47 PM) [hereinafter Wilmarth, *Gillibrand-Lummis Bill*], <https://www.americanbanker.com/opinion/gillibrand-lummis-crypto-bill-ignores-the-lessons-of-history> [https://perma.cc/WGC7-5W6T].

424. Kyle Campbell, *FTX Gives Congress a Reason to Rein in Crypto. The Question Is How*, AM. BANKER (Nov. 18, 2022, 3:50 PM), <https://www.americanbanker.com/news/ftx-gives-congress-a-reason-to-rein-in-crypto-the-question-is-how> [https://perma.cc/HN5H-Z4WR] (discussing the Toomey bill); *Toomey Stablecoin Bill 2.0: Key Changes*, DAVIS POLK (Dec. 22, 2022), <https://www.davispolk.com/insights/client-update/toomey-stablecoin-bill-20-key-changes> [https://perma.cc/B4W3-5EBA] (analyzing Sen. Toomey's revised stablecoin bill.).

425. DAVIS POLK, *supra* note 424; Wilmarth, *Banking Privileges*, *supra* note 401, at 5–6, 21 nn.44 & 48; Wilmarth, *Gillibrand-Lummis Bill*, *supra* note 423; Wilmarth, Treasury Comment Letter, *supra* note 21, at 14; see also Julie A. Hill, *Opening a Federal Reserve Account*, 40 YALE J. ON REG. (forthcoming) (manuscript at 7–12), <https://ssrn.com/abstract=4048081> [https://perma.cc/9Z9D-PWFC] (describing Fed master accounts and the services that the Fed provides to holders of those accounts). For a description of the FedNow instantaneous payment service, which the Fed will offer to participating banks in 2023, see ECONOMIC REPORT OF THE PRESIDENT, *supra* note 14, at 268–70.

In January 2023, the Federal Reserve Bank of Kansas City denied an application by Custodia Bank, an uninsured Wyoming SPDI, to obtain a Fed master account. Custodia filed a lawsuit to compel the

Until recently, a deposit-taking bank could not receive a bank charter and obtain a Fed master account unless it was approved for federal deposit insurance by the FDIC. The OCC has not issued charters for uninsured deposit-taking national banks since Congress established the FDIC in 1933, and it is highly doubtful whether the OCC possesses authority to grant such charters.⁴²⁶ Prior to 2019, every state required state-chartered banks that accepted deposits from the public to obtain federal deposit insurance.⁴²⁷

State laws requiring federal deposit insurance for deposit-taking banks were the product of hard experience during the savings and loan and banking crises of the 1980s and early 1990s. During those crises, systemic failures occurred among state-chartered depository institutions that relied on state-sponsored deposit insurance programs. The collapse of state-sponsored deposit insurance schemes inflicted substantial losses on depositors and damaged local economies in several states, including Ohio, Maryland, and Rhode Island.⁴²⁸

Wyoming (in 2019) and Nebraska (in 2020) disregarded the lessons of history and began to charter special-purpose crypto banks that accept deposits of crypto assets but do not have federal deposit insurance.⁴²⁹ In 2020, Acting Comptroller of the Currency Brian Brooks invited crypto firms to apply for uninsured deposit-taking national bank charters (although the OCC has not issued any such charters).⁴³⁰ The Gillibrand-Lummis and Toomey bills would codify the foregoing departures from sound banking principles by (i) authorizing the chartering of uninsured state-chartered banks and uninsured national banks that issue stablecoins and (ii) requiring the Fed to provide master accounts to those institutions.⁴³¹

Fed to provide it with a master account. Kyle Campbell, *Court Denies Fed Motion to Dismiss Custodia Suit, Keeps Trial in Play*, AM. BANKER (Feb. 23, 2023, 1:21 PM), <https://www.americanbanker.com/news/court-denies-fed-motion-to-dismiss-custodia-suit-keeps-trial-in-play> [https://perma.cc/N7PY-FYYA]; Kyle Campbell, *Kansas City Fed Rejects Custodia's Master Account Application*, AM. BANKER (Jan. 27, 2023, 6:07 PM), <https://www.americanbanker.com/news/kansas-city-fed-rejects-custodias-master-account-application>. [https://perma.cc/97MA-NJ7X]; see also DAVIS POLK, *supra* note 165 (analyzing Custodia Bank's lawsuit against the Fed); Hill, *supra* (manuscript at 35–40, 60–61) (same); *supra* notes 165–66, 367 and accompanying text (discussing Custodia Bank and the Fed's denial of its application to become a Fed member bank).

426. Wilmarth, *Banking Privileges*, *supra* note 401, at 6, 10 (contending that federal law does not authorize the OCC to charter uninsured deposit-taking national banks); Wilmarth, *Stablecoins*, *supra* note 159, at 10 (explaining that the OCC issued a statement claiming such authority in 2022 but has not issued any such charters); see also Lev Menand & Morgan Ricks, *Federal Corporate Law and the Business of Banking*, 88 U. CHI. L. REV. 1361, 1411 (2021) (citing 12 U.S.C. § 222) ("The FRA requires national banks to obtain deposit insurance . . .").

427. Wilmarth, *Stablecoins*, *supra* note 159, at 10, 19 n.68.

428. *Id.* at 10, 19 n.69.

429. *Id.*; Wilmarth, Treasury Comment Letter, *supra* note 21, at 14; see also *supra* notes 159–66 and accompanying text (discussing Wyoming's and Nebraska's chartering of uninsured, special-purpose crypto depository institutions).

430. Wilmarth, *Gillibrand-Lummis Bill*, *supra* note 423.

431. See *supra* notes 423–25 and accompanying text.

The turmoil that swept through crypto markets after the Terra stablecoin collapsed in May 2022 and the near-crisis that occurred when the USDC stablecoin lost its \$1 peg after SVB’s failure in March 2023 demonstrate the grave dangers that uninsured stablecoin providers pose to our banking system, our financial markets, and our economy. Failures of uninsured stablecoin providers would be likely to trigger systemic runs on similar providers, potentially undermining the stability of our banking system, disrupting our payment system, and inflicting broader harm on our financial markets, economy, and society.⁴³² Accordingly, Congress should reject proposals like the Gillibrand-Lummis and Toomey bills and should require all providers of stablecoins and tokenized deposits to be FDIC-insured banks.

3. Policymakers Should Not Apply the Regulatory Model for Money Market Funds to Nonbank Stablecoin Providers.

Congress and federal regulators should also reject proposals that would allow nonbanks and uninsured banks to issue or distribute stablecoins if they satisfy reserve and disclosure requirements comparable to those governing money market funds (MMFs). As shown below, the regulatory regime for MMFs has failed to prevent repeated investor runs and bailouts and does not provide an adequate response to the risks posed by stablecoins.

MMFs (like stablecoins and PayPal’s customer balances) are unstable and run-prone shadow deposits.⁴³³ Unlike FDIC-insured bank deposits, shadow deposits are forms of “private money” that are not backed by the full faith and credit of any sovereign.⁴³⁴ Holders of shadow deposits are likely to run whenever they have serious doubts about the adequacy of the reserves backing those financial instruments.⁴³⁵

432. Zhao, *supra* note 20 (describing potential hazards created by (i) “rapid withdrawals from stablecoins backed by commercial paper,” which could “disrupt commercial-paper markets” and “create losses for traditional financial institutions holding similar assets,” and (ii) the collapse of stablecoins that are “widely adopted as a means of payment,” which would pose a “threat to financial stability”); *see also* Wilmarth, *Stablecoins*, *supra* note 159, at 2–3, 6, 14 (discussing similar financial stability risks posed by stablecoins issued by uninsured providers).

433. Gorton & Zhang, *supra* note 385 (manuscript at 3–9, 21–24); Wilmarth, *Pandemic Crisis*, *supra* note 63, at 8–10; Wilmarth, *Stablecoins*, *supra* note 159, at 2–6.

434. Gorton & Zhang, *supra* note 385 (manuscript at 3–5, 33, 38); MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION 32–40, 96–103 (2016); Wilmarth, *Stablecoins*, *supra* note 159, at 3, 6; Wilmarth, Treasury Comment Letter, *supra* note 21, at 8–9.

435. Gorton & Zhang, *supra* note 385 (manuscript at 3–6, 38–39); RICKS, *supra* note 434, at 101–03, 134–35, 215–16, 245–59; Wilmarth, *Stablecoins*, *supra* note 159, at 2–6.

In 2008 and 2020, investors ran on “prime” (non-government) MMFs due to widely shared concerns about the adequacy of their reserves.⁴³⁶ In May 2022, investors ran on the Terra stablecoin and withdrew billions of dollars from the Tether stablecoin based on doubts about the sufficiency of their reserves.⁴³⁷ A similar crisis was narrowly avoided in March 2023, when the federal government protected Circle’s \$3.3 billion of uninsured deposits at SVB, which represented a significant portion of Circle’s reserves for its USDC stablecoins.⁴³⁸ State-sponsored deposit insurance programs collapsed during the 1980s and early 1990s after the weakness of their reserves became publicly known.⁴³⁹ As shown by the foregoing episodes, any regulatory model that relies on private reserves for stablecoins will almost certainly fail during future crises, thereby creating severe problems for our banking system and financial markets.

The SEC’s track record with MMFs does not inspire confidence that the SEC could effectively control the systemic dangers of stablecoins if it regulated their issuers as MMFs under the Investment Company Act of 1940 (1940 Act).⁴⁴⁰ The SEC’s regulation of prime MMFs under the 1940 Act failed to ensure the resilience of those funds after Lehman Brothers collapsed in September 2008. Lehman’s default on its commercial paper triggered systemic runs by investors on prime MMFs and resulted in a bailout of those funds by the Treasury Department and the Fed. In addition, dozens of prime MMFs received financial support from their sponsors (including bank holding companies and asset managers).⁴⁴¹ Despite that calamitous experience, the SEC rejected proposals that would have required all MMFs to use floating net asset values (NAVs) like other mutual funds, and to stop providing deposit-like treatment by redeeming their shares based on a fixed NAV of \$1 per share.⁴⁴²

436. Gorton & Zhang, *supra* note 385 (manuscript at 21–24); RICKS, *supra* note 434, at 214–16; Wilmarth, *Pandemic Crisis*, *supra* note 63, at 4–10; Wilmarth, *Stablecoins*, *supra* note 159, at 2–6; U.S. GOV’T ACCOUNTABILITY OFF., MONEY MARKET MUTUAL FUNDS: PANDEMIC REVEALED UNRESOLVED VULNERABILITIES 7–12, 15–19 (2023) [hereinafter 2023 GAO-MMF REPORT], <https://www.gao.gov/assets/gao-23-105535.pdf> [<https://perma.cc/4KEL-D2U3>]; see also *id.* at 8 (explaining that “prime” MMFs are allowed to invest in commercial paper, bank certificates of deposit, and other short-term financial instruments that are not issued or guaranteed by the federal government).

437. See *supra* notes 57–60, 90–96 and accompanying text; Wilmarth, Treasury Comment Letter, *supra* note 21, at 2–6.

438. See *supra* notes 255–62, 282–85 (discussing the impact of the federal government’s decision to protect Circle’s uninsured deposits in SVB).

439. Wilmarth, *Stablecoins*, *supra* note 159, at 10; Wilmarth, Treasury Comment Letter, *supra* note 21, at 13–14.

440. 15 U.S.C. §§ 80a-1 to 80a-64.

441. BARR ET AL., *supra* note 155, at 1408–09; 2023 GAO-MMF REPORT, *supra* note 436, at 9–12; Gorton & Zhang, *supra* note 385 (manuscript at 21–23); Wilmarth, *Stablecoins*, *supra* note 159, at 5; WILMARTH, TAMING THE MEGABANKS, *supra* note 145, at 156–57, 263–64, 276–82, 285–86.

442. BARR ET AL., *supra* note 155, at 1409–14; Wilmarth, *Stablecoins*, *supra* note 159, at 5–6.

Instead, the SEC adopted more limited reforms in 2014, which required institutional prime MMFs to use floating NAVs and permitted those funds to impose restrictions on redemptions. The 2014 reforms allowed retail prime MMFs and institutional and retail government MMFs to continue offering fixed NAVs. In March 2020, prime MMFs again experienced systemic runs by investors and were bailed out a second time by the Treasury and the Fed.⁴⁴³

In December 2021, the SEC acknowledged that its limited reforms in 2014 failed to prevent investor runs on MMFs in 2020. However, the SEC again rejected the idea of requiring all MMFs to use floating NAVs. Instead, the SEC issued proposed rules that would increase liquidity requirements for all MMFs and require certain types of MMFs to redeem their shares based on “swing pricing” rules.⁴⁴⁴

A recent study by Fed economists concluded that the SEC’s 2014 reforms were ineffective and warned that the SEC’s proposed 2021 reforms would likely be inadequate.⁴⁴⁵ The study’s authors recommended that MMFs should obtain backup liquidity guarantees from major banks to improve their ability to redeem their shares on demand. However, the authors acknowledged that their recommendation could encourage “the growth of intermediation arrangements . . . that bypass the banking system” in the same way that MMFs and nonbank stablecoins have done.⁴⁴⁶

A much more effective reform would be a federal statute providing that FDIC-insured banks are the only private-sector entities that are authorized to issue financial claims payable at par (100% of face value) on demand or within ninety days of issuance. That reform would abolish shadow deposits and require all short-term financial claims payable at par—including stablecoins and MMFs with fixed NAVs—to be issued and regulated as bank deposits. All “private money claims” would disappear from our financial markets and be replaced by bank deposits that are protected and regulated under our federal banking laws (including the federal deposit

443. BARR ET AL., *supra* note 155, at 1414–19; 2023 GAO-MMF REPORT, *supra* note 436, at 12–19; Gorton & Zhang, *supra* note 385 (manuscript at 24); Wilmarth, *Pandemic Crisis*, *supra* note 63, at 4–7; Wilmarth, *Stablecoins*, *supra* note 159, at 5–6.

444. Wilmarth, *Stablecoins*, *supra* note 159, at 6 (discussing the SEC’s admission that its 2014 reforms did not work as intended, as well as the SEC’s refusal to require all MMFs to use floating NAVs). The SEC’s proposed rules, adopted on December 15, 2021, were published in the *Federal Register* at 87 Fed. Reg. 7248 (Feb. 8, 2022) (to be codified at 17 C.F.R. pts. 270, 274). See 2023 GAO-MMF REPORT, *supra* note 436, at 20–22 (describing the SEC’s proposed rules, including its proposals to increase liquidity requirements for all MMFs and to require institutional prime and tax-exempt MMFs to adopt “swing pricing” rules for redemptions of their shares).

445. Huberto M. Ennis, Jeffrey M. Lacker & John A. Weinberg, *Money Market Fund Reform: Dealing with the Fundamental Problem* 2, 8–12 (Fed. Rsr. Bank of Richmond, Working Paper No. 22-08R, 2022), https://www.richmondfed.org/-/media/RichmondFedOrg/publications/research/working_papers/2022/wp22-08.pdf [https://perma.cc/4 KM7-UTH4].

446. *Id.* at 13; *see id.* at 12–15.

insurance program and the monetary policy regime established by the Federal Reserve Act).⁴⁴⁷

CONCLUSION

Cryptocurrencies and crypto firms pose unacceptable risks to investors and our banking system. To protect investors, policymakers should recognize the SEC as the primary federal regulator of most fluctuating-value cryptocurrencies. To protect our banking system, federal bank regulators should prohibit FDIC-insured banks and their affiliates from (i) investing and trading in fluctuating-value cryptocurrencies, either as principals or agents, or (ii) providing financial services to crypto firms that are not registered with and regulated by the SEC and/or the CFTC. To ensure that stablecoins and tokenized deposits do not become hazardous new forms of shadow deposits, Congress should mandate that only FDIC-insured banks can issue and distribute such financial instruments. As shown by the failures of three U.S. banks with significant exposures to crypto firms in March 2023, the foregoing measures are urgently needed to stop the crypto industry from causing further harm to investors and undermining the stability of our banking system.

447. Wilmarth, *Stablecoins*, *supra* note 159, at 2–13; WILMARSH, TAMING THE MEGABANKS, *supra* note 145, at 12–14, 153–57, 341–44, 355–56; Wilmarth, Treasury Comment Letter, *supra* note 21, at 8–15. See generally RICKS, *supra* note 434 (contending that all short-term financial instruments that function as “private money claims” should be regulated as bank deposits to ensure the effectiveness of financial regulation and monetary policy). Cf. Ryan Clements, *Defining the Regulatory Perimeter for Stablecoins in Canada*, 66 CANADIAN BUS. L.J. 201 (2022) (Part V) (concluding that proposals to regulate stablecoins as “securities” in Canada would leave important regulatory “gaps,” while applying “bank-like standards” to stablecoins would better address their “‘bank-like’ risks,” including investor “runs” and “insufficient reserves”).